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SYPHILITIC CARDIOVASCULAR DISEASE—A PRELIMINARY REPORT.*

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We have selected for this study 505 patients admitted to various services of the Hospital Division of the Medical College of Virginia from July 1, 1927, to July 1, 1930, who showed complete complement fixation reaction for syphilis. The object has been to include in this study only those patients whose blood indicated active syphilitic disease. For this reason, patients showing weakly or doubtfully positive Wassermann reactions were excluded, and this method of selection largely eliminated patients who had been subjected to intensive antiluetic therapy.

A spirochetal bacteriemia occurs at some period after the initial lesion of syphilis. Colonization of the spirocheta pallida in various areas of the body begins early and almost at once the bacteriemia disappears leaving behind widely disseminated focal areas of active syphilitic disease. The lesions produced by syphilis in the cardiovascular system represent one of the most unfortunate and serious results of this parasitic colonization. The "so-called" latent syphilitic lesions of the somatic structures are characterized by periarteriolar and pericapillary infiltration of round and plasma cells with the later addition of fibroblastic elements. This lesion, a miliary gumma, undergoes central necrosis, the result of ischemia induced by the obliteration of the lumen of involved vessels through proliferation of the endothelial lining, pressure necrosis of the vessel wall and probably to some extent the effects of spirochetal antigen on local elements. The miliary gumma is the unit of syphilitic pathology wherever found just as the tubercle is the unit of the pathology induced by the tubercle bacillus. One may say, therefore, that the perivascular gumma is, regardless of its location, the lesion of late syphilis, and from a clinical standpint, cardiovascular syphilis is concerned principally with the heart and that part of the vascular tree, the walls of which are nourished by specially designed vessels, the vasa vasorum.

An analysis of those patients presenting symptoms sufficiently characteristic to be classed as having syphilitic cardiovascular disease, revealed the presence of phenomena localizing the pathology above the diaphragm in 88 per cent of the cases, the exceptions being an abdominal aortic aneurysm and two aneurysms of the popliteal artery. One is chiefly concerned, therefore, with the changes occurring at the base of the aorta and contiguous structures, viz., coronary vessels, aortic ring and leaflets, and cardiac musculature. Fundamentally, the lesions in the aorta characteristic of this type of vascular disease consist primarily of an involvement of the nutrient vessels of the muscular and elastic coats with anemic necrosis and fragmentation of these which results in a loss of elasticity and tensile strength of the vessel wall with a consequent saccular or diffuse dilatation of the aorta. The changes observed in the intima and adventitia are secondary to the mesaortitis, representing a compensatory adjustment and hyperplasia, a protective gesture of nature to strengthen a weakened vessel wall. This characteristic behavior of the vessel, to dilate as the result of the destruction of the elastic coats, explains most of the phenomena characteristic of syphilitic aortitis. Dilatation of the base produces the phenomenon, aortic regurgitation, and aneurysms are the end results of saccular dilatation of the vessel wall.

The effects upon the heart muscle are the results of involvement of mouths of the coronary vessels in the syphilitic process and the development of aortic regurgitation with its consequent effect in prompting immense cardiac hypertrophy. At the same time there is

*From the Department of Medicine, Medical College of Virginia. Read by Dr. Ashton at the sixty-first annual meeting of the Medical Society of Virginia, in Norfolk, October 21-23, 1930.

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interference with the dynamics of coronary circulation due to the low diastolic pressure. Also there probably exist certain rare cases of diffuse spirochetal involvement of the muscle mass.

Table I is a summary of the material reviewed. In a period of three years (July 1, 1927, to July 1, 1930) there were admitted to the Hospitals of the Medical College of Virginia 505 patients with strongly positive Wassermann reactions. Of this number, 100 cases were found to have cardiovascular disease.

TABLE No. 1

TOTAL NUMBER OF CASES WITH STRONGLY POSITIVE (4+) WASSERMANN REACTIONS, 505

Positive Cardiovascular Disease	85
Suspected Cardiovascular Disease	15
CLASSIFICATION OF CASES	
Aortitis with Insufficiency	16
Aortitis without Insufficiency	3
Aneurysms	4
Rheumatic Heart Disease	7
Thyrotoxicosis	2
Arteriosclerotic, Hypertensive	58
Subacute Bacterial Endocarditis	2
Pericarditis—Purulent and Serofibrinous	4
Unclassified	4
Total Number of Cases	100
Percentage of Cardiovascular Cases with Syphilitic Cardiovascular Disease	23.
Percentage of all Cases with Syphilitic Cardiovascular Disease	4.5

Twenty-three patients presented signs and symptoms of cardiovascular syphilis, and in two cases slight manifestations of this disease were discovered at autopsy.

As may be readily seen the arteriosclerotic-hypertensive group was the most prevalent, the syphilitic group next, and the rheumatic group third. Pericarditis, bacterial endocarditis, and thyrotoxicosis occurred in only a few cases.

The usual diagnostic procedures were employed in differentiating the various types, free use being made of the electrocardiograph, X-ray, and polygraph. Most of the patients were under observation for sufficiently long periods to make the diagnosis relatively certain. For the purposes of this study we shall discuss only those cases of aortitis and aneurysm. We believe that the positive Wassermann reactions in the other types of cardiovascular disease were coincidental and had no etiologic bearing.

Table II contains a brief synopsis of certain essential features occurring in sixteen patients with syphilitic aortic insufficiency. The blood pressure changes conform in general to what one would expect in aortic regurgitation. The diastolic pressures were low in comparison to

TABLE No. 2

PATIENTS WITH SYPHILITIC AORTIC INSUFFICIENCY WITH STRONGLY POSITIVE (4+) WASSERMANN REACTIONS

No.	Name	Age	Sex	Race	B. P.	Type of Dyspnea	Rhythm	Congestive Failure	Anginoid Symptoms	Result
1.....	M. C.	40	F	W	125–0	Constant	Normal	Yes	No	Improved
2.....	G. M.	33	M	N	230–70	Paroxysmal Nocturnal	Normal	Yes	Yes	Improved
3.....	F. C.	33	M	N	140–70	Paroxysmal Nocturnal	Normal	Yes	No	Died
4.....	J. B. J.	54	M	N	198–100	Paroxysmal Nocturnal	Extrasystoles	Yes	No	Improved
5.....	C. T.	31	F	N	195–35	Paroxysmal Nocturnal	Normal	Yes	Yes	Improved
6.....	S. G.	60	M	W	120–18	Paroxysmal Nocturnal	Normal	Yes	Yes	Died
7.....	G. M. G.	38	M	N	185–40	Constant	Normal	Yes	Yes	Died
8.....	E. D.	42	F	N	120–40	Constant	Normal	No	Yes	Improved
9.....	J. G.	49	M	N	160–60	Constant	Normal	Yes	Yes	Died
10.....	W. D. A.	45	M	W	180–84	Constant	Normal	No	Yes	Improved
11.....	E. C.	46	M	N	150–70	Constant	Normal	Yes	Yes	Improved
12.....	J. E.	42	M	N	190–0	Constant	Normal	Yes	Yes	Improved
13.....	M. C.	30	F	N	190–70	Paroxysmal Nocturnal	Normal	Yes	Yes	Improved
14.....	G. L.	31	M	N	130–20	Constant	Normal	Yes	Yes	Improved
15.....	E. B.	28	M	N	140–80	Paroxysmal Nocturnal	Normal	No	Yes	Improved
16.....	D. K.	40	F	W	118–48	Paroxysmal Nocturnal	Normal	Yes	Yes	Died

SUMMARY

White, 25%, Negro, 75%; Males, 68.7%, Females, 31.3%.
Paroxysmal Dyspnea, 50%; Anginoid Symptoms, 81.2%; Congestive Failure, 81.2%.

the systolic and in practically every instance there was an increase in the "pulse pressure." Paroxysmal dyspnea, normal rhythm, and congestive failure were frequent concomitants.

The majority of the patients showed improvement while in the hospital, but judging from past experiences, it is probable that the remissions were only temporary.

Table III included three cases of aortitis without insufficiency, and, in addition, four other cases in which the mesarteritis had progressed to aneurysmal dilatation. In the first group the signs of aortic insufficiency were not present but all the other signs and symptoms were fairly typical of aortitis without regurgitation. The aneurysms occurred in the ascending aorta, the abdominal aorta, and in two instances in the popliteal artery. The two patients with aortic aneursym died, both apparently as the result of rupture of the sac. In the popliteal cases there was recovery following amputation which was necessary because of gangrene in the involved legs.

Table IV gives a brief summary of two patients in whom aortitis was discovered at necropsy. In both cases the involvement was slight, due in all probability to an arrest of the process early in the disease. As far as could be determined it had no important bearing on the ultimate result.

The average age of all the patients with cardiovascular syphilis was forty-one years. This gives us no definite clue as to when the disease began, but the striking thing is that the large majority were definitely incapacitated before or just at the middle age period of life. The fact that practically all of these patients were deprived of economic usefulness before the prime of life is one of the lamentable sidelights on this type of disease.

Normal rhythm was present in all but two cases, and in these the arrhythmias were due to premature ventricular contractions. When one considers the relative frequency of rhythmic disturbances in rheumatic and arteriosclerotic types of heart disease, it seems significant that in cardiovascular syphilis the pace maker and conduction systems are relatively undisturbed even in advanced congestive failure.

The phenomenon, paroxysmal dyspnea, was quite prevalent in our series, occurring in eight (50 per cent) of the cases of aortic insufficiency and in all three cases classed as aortitis. The mechanism of production of this

TABLE No. 3

AORTITIS WITHOUT INSUFFICIENCY IN PATIENTS WITH STRONGLY POSITIVE WASSERMANN REACTIONS

NAME	AGE	RACE	SEX	B. P.	TYPE OF DYSPNEA	RHYTHM	CONGESTIVE FAILURE	RESULT
H. H....	37	N	M	128–110	Paroxysmal Nocturnal	Normal	Yes	Improved
R. R....	45	N	M	180–90	Paroxysmal Nocturnal, with Pain	Extrasystoles	Yes	Improved
T. A....	38	N	M	180–100	Paroxysmal Nocturnal, with Pain	Normal	Yes	Improved

ANEURYSMS IN PATIENTS WITH STRONGLY POSITIVE WASSERMANN REACTIONS

NAME	AGE	RACE	SEX	B. P.	LOCATION OF OF ANEURYSM	CARDIAC SYMPTOMS	CARDIAC SIGNS	RHYTHM	RESULT	AUTOPSY
W. P.....	42	N	M	190–130	Ascending Aorta	Constant Dyspnea, Pain, Hoarseness	Cardiac Enlargement, Pulsating Tumor in Precordial Region	Normal	Died	No
P. H.....	48	N	M	160–110	Abdominal	Slight Dyspnea	Slight Enlargement	Normal	Died	Syphilitic Arteritis
G. H.....	49	N	M	110–80	Popliteal	None	Heart Enlarged	Normal	Imp.	Pathological Report
W. J.....	40	N	M	260–150	Popliteal	None	Heart Enlarged	Normal	Imp.	Pathological Report

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unique type of respiratory difficulty is still not clear. Longcope,[1] who reported the existence of nine cases in a total of sixty-three patients with syphilitic aortitis, was inclined first to the theory of bronchospasm initiated by an aortic-bronchial reflex. Lamb[2] reported twenty-six cases of simple aortitis without insufficiency in which paroxysmal dyspnea was not present. Keefer and Resnik[3] found it to occur in a large percentage of cases with aortic insufficiency, but not at all in cases of uncomplicated aortitis. Palmer and White[4] describe its relatively frequent occurrence in syphilitic aortic insufficiency, but also refer to the finding of variable degrees of cardiac asthma, in hypertensive arteriosclerotic heart disease, and coronary sclerosis. It would seem, according to these authors, that the occurrence of dyspnea, paroxysmal in type, was in some way connected with advanced degrees of left ventricular failure, inasmuch as this feature was almost universally present. This symptom in our cases may be explained on the same basis.

Cardiac pain, anginoid in character, was a prominent feature of the symptom complex, occurring in thirteen of the sixteen patients with aortic insufficiency, in two of the three cases of aortitis without insufficiency, and in the patient with aneurysm of the ascending aorta. Here again the explanation is fraught with controversy. Whether it is the result of inflammatory lesions in the aorta producing referred or reflex pain, or due to distention of the ventricular chamber, is a mooted point. Longcope found evidences of definite coronary obstruction in numerous cases without anginal symptoms, and it would seem that the cause of cardiac pain is still largely undetermined. However, the persistence of low diastolic pressure coupled with an obstruction to coronary blood flow as the result of aortic lesions would seem to produce varying degrees of myocardial anoxemia with pain as a possible result.

Congestive failure is a relatively late manifestation of aortic disease for the reason that the powerful musculature of the left ventricle is able to withstand marked increases in stress and strain without becoming incompetent. When the break in compensation occurs, therefore, it is usually significant of severe myocardial damage, and consequently, the restoration of compensation is a much more difficult problem. Thirteen of our patients with aortic insufficiency and three with aortitis presented signs of congestive failure, and analysis of the histories reveal that practically all had experienced symptoms of cardiac disease for several years before the break in compensation occurred. It may also be noted that once myocardial failure supervenes the general trend is for a downhill course although there may at times be short remissions.

TABLE No. 4

AORTITIS DISCOVERED AT POST MORTEM IN PATIENTS DYING OF OTHER TYPES OF CARDIOVASCULAR DISEASE

NAME	AGE	SEX	RACE	CAUSE OF DEATH	RHYTHM	AUTOPSY
J. S.....	70	M	N	Arteriosclerosis Pyelonephritis Bronchopneumonia Myocardial Insufficiency	Normal	Slight Syphilitic Aortitis Arteriosclerosis Acute Pyelonephritis Aortic Valves Competent
C. M....	49	M	W	Bronchopneumonia Purulent Pericarditis	Normal	Slight Syphilitic Aortitis Bronchopneumonia Pericarditis Aortic Valves Competent

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DISCUSSION

DR. WILLIAM B. PORTER, Richmond: There are certain phases of this study which are very interesting and instructive. There is, however, a very apparent and distressing situation existing in this field of cardiovascular disease. It is evident that the ravages of the spirocheta pallida in the aorta and that part of the vascular apparatus above the diaphragm do not evidence themselves until the disease is so advanced that it is classifiable as advanced in degree. It is comparable to the cavitation stage of

tuberculosis, and it is distressing that this should be true. The explanation for this situation is reasonable and plain. Syphilitic disease of the aorta is not painful until the pathology is advanced, nor are the symptoms of heart failure evidenced unless there is an associated hypertension of advanced heart muscle pathology. Aneurysms are frequently noted at the autopsy table without having been suspected during the patient's illness. At any rate it has been our experience to have the pathologist present us with this unsuspected lesion. There are several lessons to be learned from this study. For the time being it seems very difficult to make the diagnosis of cardiovascular syphilis until the disease has advanced beyond the stage when much may be accomplished by therapy.

Secondly, these patients die at a period when they are just beginning to be socially useful and economically productive.

Lastly, it behooves us therefore to consider carefully these facts and to concern ourselves with the study of the incipient phenomena and symptoms of this malady to the end that we may have a group of signs and symptoms which are comparable to those so well established in incipient tuberculosis. At this time we are far from this goal.

DR. T. W. MURRELL, Richmond: Dr. Porter asked me to say something about the therapy of syphilis in these and similar cases. It seems somewhat of a joke that he should ask me to do this.

A great deal is said about the age of the patient that has syphilis, and the essayist states that unfortunately he can give very little about the age of the disease. It seems to me that is a very important thing in our conception of how we are going to treat syphilitics, as to how long they have been syphilitics. The average age of these patients, as he gives it, is forty-one, but there are a good many over fifty and one aged seventy-one. Now, if you take the average age at which syphilis is contracted, it is usually between the age of twenty and thirty. This particular man had been a syphilitic for forty or forty-five years and had been a normal man for twenty-five or thirty years. Therefore, chronic parasitism has developed. Now, it is very important to give our students some criteria of what can be accomplished relative to the age of the infection. Obviously, you cannot go back and treat syphilis in this man. The heart is permanently damaged; the patient is permanently damaged. The best you can do, perhaps, is to relieve him of pain and perhaps give him a sense of well-being.

A prominent gynecologist came to Richmond a few years ago and in a short talk reviewed his history. He said women had come to him with their organs all misplaced, all out of position; that in his enthusiasm he had operated on them and replaced the organs in the proper position, but the patient never felt well again. He said: "Now I am laying great stress on the patient's sense of well-being" So if we can give these patients a sense of well-being it is a great thing to do. The average student wants to treat the patient with syphilis until we get a negative Wassermann, but we don't want to descend into the grave to do it.

DR. F. C. RINKER, Norfolk: Any cardiovascular disturbance must recall to our attention the possibility of syphilis. Reverting from that to the question of syphilis, I am very definitely of one opinion; that is, when we have determined that cardiovascular disease is due to syphilis, it is first our job to relieve the patient, relieve his pain, relieve his dyspnea, and then start him on antisyphilitic treatment. As Dr. Murrell has so well brought out, we cannot hope in the majority of cases to get a negative Wassermann, but we can put him on his feet, so that he is a valuable citizen.

In closing, I want to say just this—I think the institution of treatment by the use of the arsenates; salvarsan, neosalvarsan, and the like, is dangerous. I think it is well to start with the mercury and iodides and later use the arsenates, because of the damage that results from the use of the arsenates in these cases on the cardiovascular system itself, where syphilis exists.

SODIUM AMYTAL AS A PRE-ANAESTHETIC AGENT—WITH ESPECIAL REFERENCE TO ITS USE IN ORTHOPEDIC SURGERY.

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For years we have looked for an ideal anaesthetic: since the introduction of ether by Crawford W. Long, in 1842, of nitrous oxide by Horace Wells, in 1844, and chloroform by James Y. Simpson, in 1847. Every year one or more anaesthetics is introduced. We have sought an anaesthetic which would render the patient unconscious of his surroundings and yet not have the deleterious effect of ether on the respiratory system, of chloroform on the liver, or cocaine on the central nervous system. This ideal anaesthetic has not yet been found, but sodium amytal, supplemented when necessary with the usual anaesthetics, has seemed to us to be a definite step ahead toward this goal, and has, in addition to that, eliminated many of the disagreeable experiences of the surgical patient.

In 1903, Fisher and Von Mehring successfully completed the synthesis of a nitrogen containing compound prepared by treating diethylmalonic acid ester with urea and sodium ethylate. This preparation was placed on the market under the name of barbital.

Since that time a large number of barbital derivatives have been prepared, differing from one another largely in the substitution of one or both hydrogen atoms by other radicals. It is possible to develop a great number of the substances.

In 1924, Fredet and Perlais[1] succeeded in inducing general anaesthesia with the barbituric acid series. They used a mixture of diethylbarbituric acid and allylisopropyl barbituric acid, the trade name for which is somnifene. This was given intravenously. Fol-

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lowing their lead, Bumm,[2] in 1927, used sodium butylbetabrompropenyl barbiturate intravenously. The trade name for this is pernokton.

In 1926, Page and Coryllos[3] used sodium amytal, the trade name for sodium iso-amyl-ethyl-barbiturate, intravenously to produce general anaesthesia in animals. These animals went to sleep quietly and slept from two to six hours. When they awoke they seemed fresh and showed no ill effects from the drug. A little later Page and Swanson[4] conducted a series of experiments which convinced them that amytal was less toxic than veronal.

In February, 1929, Zerfas and McCallum,[5] of the Medical Research Department of the Indianapolis City Hospital, successfully demonstrated the induction of surgical analgesia and anaesthesia in man by the intravenous injection of solutions of sodium amytal. They reported 300 cases. In September, 1929, Lundy,[6] of the Mayo Clinic, reported 1,000 cases, medical and surgical, in which this barbital derivative had been used. Since that time numerous articles have appeared in the literature concerning the use of this drug.

This report will deal chiefly with the use of sodium amytal by mouth. However, many of the observations reported here were made on patients who had been given the drug intravenously.[7]

Administration

The drug is supplied by the manufacturer in ampules of three sizes for intravenous use and in capsules of three grains each. At the writing of this paper the drug prepared for intravenous use has not been released on the market, so we will not discuss the technic or complications of administration by that route.

The usual precautions that are taken with general anaesthetics of any kind should be taken when this one is used. We have in every case given morphine and atropin, according to the age of the patient, one-half or one hour before operation. The use of morphine seems to render the action of amytal more uniform and more intense.

In very dilute solutions it may be given intramuscularly, or it may be given by mouth, rectum or intravenously.

We prefer to give the drug by mouth. As with many drugs, so it is true with this one, that there is a great variation in individual suspectibility. When given intravenously we have seen the dose required to put the patient to sleep vary from three to seventeen grains. The intravenous route without doubt affords the most accurate method of controlling dosage, since, when injected intravenously, the drug acts almost instantly. However, the oral method has certain advantages over the intravenous. To prepare and inject the drug requires not less than twenty minutes. The patient must be stuck with a needle, and that is a little disagreeable and the procedure may upset a nervous individual. When given by mouth the patient takes several blue capsules given by the nurse. He does not know what they are, neither does he care. The next thing he remembers is six to twelve hours later when the operation has been completed without his knowledge.

Dose

The lethal dose for man is unknown. In dogs, Page and Coryllos found the fatal dose to be approximately twice the dose necessary for general anaesthesia. When the drug was first used the attempt was made to produce surgical anaesthesia with sodium amytal alone. This is possible, but requires rather large doses. Lundy, of the Mayo Clinic, has several times used as much as forty-five grains intravenously with impunity. Good muscular relaxation was secured, but the patients slept thirty-six or forty-eight hours and remained drowsy for four or five days. It was difficult to nurse patients under such conditions, and the dangers of pulmonary complications were increased. Experience has taught us that it is better to secure hypnosis with sodium amytal and to supplement it with gas or ether until the desired degree of anaesthesia and muscular relaxation is secured than to produce complete anaesthesia by means of sodium amytal alone.

With this in mind, we have used sodium amytal in sixty orthopedic cases, about 90 per cent of which have received the drug by mouth. As has been stated before, there is a wide variation in individual susceptibility to the drug. However, we have found that the following doses are sufficient to put the average patient to sleep so that he cannot be aroused, or can be aroused only with difficulty. We give three grains by mouth the night before the operation. To young people between the ages of ten and twenty we give three grains by mouth at each of the three hours previous

to the operation or a total of nine grains. To small women we give nine grains. To small men and large women twelve grains, and to large men fifteen grains are given during the three hours previous to operation.

General Effect

The point of action is not definitely known, but it seems to be on the hypothalmic portion of the diencephalon. The patient drops off quietly into a deep sleep which so closely resembles normal sleep that one cannot tell the difference until he finds it difficult to wake the patient.

Its other principal effect on the central nervous system is the anticonvulsant action which is strongly exhibited when the drug is used in strychnine poisoning, tetanus, toxic reactions from novocain and cocain, and in other convulsive states.

The pupils become contracted and sometimes fixed.

With its intravenous use there is a sudden decrease in blood pressure, which very shortly returns to normal. The fall in blood pressure is anaphylactoid in origin and is more marked in patients with extreme hypertension. With oral administration this fall in blood pressure is not such a striking feature.

The pulse is usually increased.

Respiration is decreased in amplitude and the rate is variable but usually decreased. The color is good, but occasionally a slight cyanosis has been noticed. In large doses in dogs death is always due to respiratory failure.

Some report a lowering and others a raising of the blood sugar. However, there is no associated generalized inhibition of carbohydrate metabolism.[8]

The basal metabolic rate is slightly lowered.

The temperature is lowered, with a minimal level reached in three to four hours.

Smooth muscle is almost entirely uninfluenced.

Excretion is through the kidneys, and frequently repeated doses have been found to be without effect on these organs.

Patients' Attitude to the Drug

We continue to use this drug because of the gratitude expressed by the patients who have received it. What is a commonplace experience to us is an adventure of terrifying and surprising magnitude to a great many patients. The preparation of the patient for operation, the preliminary hypodermic, the change of body apparel, the ordeal of having to get on an uncomfortable carriage, go to the elevator, be transferred to the operating room, see the doctors and nurses in white, hear the rattle of instruments, have something tight dropped over the face, and then experience a sense of suffocation for a few minutes is something to be dreaded and remembered for a long time. Many patients fear the anaesthetic and the post-operative nausea and vomiting more than the operation itself. With the method of administration as outlined above, all these things happen without the knowledge of the patients. They sleep soundly the night before the operation and are awakened in the morning to take another blue capsule, after which they remember nothing until four to twelve hours after the operation. They are sound asleep when brought to the operating room, and usually wake soon after operation to take fluids, clear the throat, etc., but remain amnesic for a period of several hours, during which time they remember nothing. There is painless recovery with very little or no nausea and vomiting even after major procedures, and the memory is free of disagreeable impressions.

Supplementary Anaesthetics

The supplementary anaesthestic may be nitrous oxide, ethylene, ether, chloroform, local or spinal. With the inhalation anaesthetics, about half as much is required with sodium amytal as is usually required to produce the same degree of relaxation with the inhalation anaesthetic alone.

Indications

It is especially indicated in nervous, sensitive and apprehensive individuals, but has been used in all types of surgery, obstetrics and medicine. In our orthopedic work we have used it for every operation which requires hospitalization for as long as twenty-four hours. (See Chart).

Chart I

Operations Under Sodium Amytal

Whitman Reconstruction for Fracture of Hip	5
Open Reduction of Fracture	6
Closed Reduction of Fracture	6
Bone Graft	4
Plastic on Hand	5
Sequestrectomy	2
Removal Bunions	6
Hoke Subastragaloid Arthrodesis	5

Manipulation of Joints	4
Removal Exostoses	4
Osteotomy Femur	2
Application Plasters	4
Stabilization of Spine	1
Disarticulation of Hip	1
Arthroplasty	1
Excision Semilunar Cartilage	1
Excision Coccyx	1
Excision Bursa	1
Plastic on Nose	1
Osteotomy Humerus	1
Excision Head of Radius	1
Plastic for Dislocated Clavicle	1
Plastic for Recurrent Dislocation of Shoulder	1
	64

Contraindications

We feel that it should not be given to the very young or old and debilitated, or those with extreme hypotension or hypertension. However, we have given it to individuals of from four to eighty-three years of age and with blood pressure varying from 100 to 230.

If one fears that a drop in blood pressure may occur, which will have a harmful effect on the patient, then caffein and ephedrin may be given prior to the administration of sodium amytal.

It should not be given when there is a known definite idiosyncrasy to the barbiturates. One reason for giving a small dose the night before operation is to determine whether the patient has an idiosyncrasy to the drug.

It should not be given in the presence of respiratory infections, because of the depressing effect of the drug on respiration. However, we do not feel that the hypnotic doses are dangerous. It should not be given when oral surgery is done, because bleeding may occur and the blood enter the trachea while the patient is in an unconscious state. A most definite contraindication seems to us to be obstruction of the respiratory passages.

Untoward Effects

We have observed no untoward effects from the administration by mouth. All the patients have gone to sleep quietly.

On the table they usually take gas or ether without struggling. However, in our series three or four have been a little restless. Only one patient became cyanotic during the operation, but this was quickly recovered from.

Due to muscular relaxation of the pharynx there is some danger of the tongue falling back and producing respiratory obstruction and cyanosis. For this reason a nurse should watch the patient until he has partly reacted. One way to prevent swallowing the tongue is to keep the patient's head turned to one side. After operation they usually react quietly, but about 10 per cent are restless. A sixth or a quarter grain of morphine will usually quiet them.

While in the drowsy state voiding is more difficult, and it will be found that more frequent catheterizations are required.

The chief complications to be feared are pulmonary congestion, edema and pneumonia, which are a result of shallow respiration in a quiet individual. However, with the small doses by mouth we have not met with this complication. The prophylaxis for these respiratory complications are the inhalation of mixtures of carbon dioxide and oxygen, hypodermic injections of caffein and ephedrin, the frequent turning of the patient and encouraging him to take ten to twelve deep breaths at least once every hour.

If it is desired to have the patient react more quickly, caffein and ephedrin will be found effective.

In our series of orthopedic cases we have had no anaesthetic deaths, nor have we had any anxiety during the operation, except in the one case mentioned above where cyanosis occurred.

Conclusions

In orthopedic work we have found sodium amytal a very safe pre-anaesthetic agent. It allays the patient's fear of surgical procedures and decreases the amount of inhalation anaesthetic required. It is especially valuable when plaster jackets and plaster spica casts are applied, because the anaesthetic may be discontinued as soon as the operation is completed and the patient will remain quiet long enough for the plaster to set well.

Case Reports

1. D. H. J. (Case No. 14,410). A white girl, age twenty, had bunions of several years duration. Operation was performed on September 17, 1930. The night before operation three grains of sodium amytal were given by mouth. On the morning of operation she was given nine grains of sodium amytal by mouth and a hypodermic of ¼ grain morphine and 1/150 grain atropine. When brought to the operating room she was sound asleep. A very light gas anaesthetic was required to keep her quiet. She awoke six hours after operation,

but the following day recalled none of the events of the day of operation. There was no post-operative nausea or vomiting.

2. J. T. R. (Case No. 14,703). A white boy, sixteen years old, had a deformity of the nose following an injury several years ago. Operation was performed on December 18, 1930. The night before operation he was given three grains of sodium amytal by mouth. On morning of operation he had nine grains of sodium amytal by mouth and a hypodermic of ¼ grain morphine and 1/150 grain atropine. He was sound asleep when brought to the operating room. A very light ether anaesthesia was given to make sure that he would be quiet. He awoke five hours after the operation and asked when he was going to have his operation.

3. J. T. D. (Case No. 14,851). A white man, twenty-five years old, had a recent comminuted fracture of the middle third of the femur. Operation was performed on December 20, 1930. A Hoke traction splint was applied for skeletal traction with a Steinman nail through the condyles of the tibia. Two hours before the operation ¼ grain of morphine and 1/150 grain of atropine had been given. Just before the operation fifteen grains of sodium amytal were given intravenously. Novocain solution was used in the skin when the Steinman nail was placed. Just after this he became a little restless and nitrous oxide was given for five minutes. The plaster and splint were then applied without difficulty.

4. T. B. (Case No. 14,871). A white woman, twenty-six years old, fell from a building and sustained a comminuted fracture of the os calcis, impacted fracture of the neck of the femur and a fracture of both rami of the pubis on the right side. Fifteen grains of sodium amytal were given intravenously. The patient was so quiet and relaxed that the fragments of the pelvis could be reduced to better position and the plaster applied without additional anaesthetic.

5. D. W. J. (Case No. 13,928). A colored boy, fourteen years old, had had infantile paralysis with resulting deformities. On September 24, 1930, he had a bilateral Hoke subastragaloid arthrodesis performed. Nine grains of sodium amytal were given during the three hours previous to operation. About half an ounce of ether was used when the first skin incision was made. Thereafter, no further supplementary anaesthetic was required. On September 30, 1930, he had bilateral osteotomies—done to correct the knock knees. Again he had nine grains of sodium amytal by mouth and only half an ounce of ether was used.

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318 *West Franklin Street.*

THE IMPORTANCE OF PRE-NATAL AND POST-NATAL CARE.*

By GREER BAUGHMAN, M. D., F. A. C. S., Richmond, Va.

When we consider that one-third of the maternal deaths in the United States are caused by eclampsia (more accurately the toxemias associated with convulsions) and when we remember that eclampsia, except in very rare instances, is absolutely preventable and can be readily diagnosed usually some time before the convulsions occur, by such simple means as a history, symptoms, changes in the urine, and rise of blood pressure, the reason for contacting the pregnant woman with a doctor seems obvious.

If we recall that infection accounts for a third of the maternal deaths and is in direct proportion to the length of labor and to the frequency of vaginal examinations, the need for pre-natal care with a mapping out of the size of the pelvis along with the fit of the baby to that particular pelvis seems all the more obvious.

In the last third of maternal deaths are grouped chronic diseases such as tuberculosis, etc., that seem to be aggravated by pregnancy and such other troubles as hemorrhage. Undoubtedly, a careful examination of the pregnant woman would and does give us in most instances information that will lead to proper treatment of the disease or to interference with pregnancy that may prevent mother's death.

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If further arguments were needed to stress the importance of having the pregnant woman make contact with a doctor for pre-natal care, the babies that are born with syphilis to be a charge to the community, the idiots and sub-normal infants due to a misfit between pelvis and baby, cry with hands extended to us for adequate pre-natal care.

The mere contact of the pregnant woman with the doctor may give her a false sense of security and for that reason do positive harm unless he really gives her pre-natal care when she comes.

That pre-natal care consists at the minimum of:

1. Taking a history, family, personal and obstetrical.

2. Measuring the pelvis either with a pelvimeter or with the trained hand making an internal examination, or with both associated with a speculum examination.

3. Taking blood for a Wassermann, taking smears from cervix and urethra for gonorrhea when necessary.

4. Physical examination, chest, heart, abdomen, etc., including patient's weight.

5. Mapping out the baby for position, size, fit of the presenting part, heart sounds. If foetus is too small, the size of the uterus can be determined.

6. Urinalysis, better a catheterized specimen to get rid of vaginal pus and albumen.

7. Giving advice about food, clothing, bowels, exercise, mental care, care of abdomen, teeth, breasts, instructions about her needs for delivery and a prognosis both as to herself and the baby.

8. Giving her literature and instructions about returning for further observation.

9. Directing treatment, diet, etc., for any departure from the normal.

While carrying out of the above minimum seems very simple to those of us who are living the lives of obstetricians, it may seem rather elaborate and time-consuming to the general practitioner. When a good technic for carrying out the above examination has been worked out it will take only a half hour.

In addition to pure curiosity to see how his own obstetric work has turned out, there are many other reasons to justify a post-natal examination and post-natal treatment.

While post-natal care begins immediately after the birth of the placenta and membranes, the post-natal care we are discussing is that attention a woman receives after her six weeks of returning to normal have been completed.

Manifestly that examination must be done by a doctor.

An examination of the woman and her baby six weeks after delivery is of importance not only to satisfy the curiosity of the doctor and to make his records complete but to protect him from unjust criticism from conditions that might arise in the future. The examination is important for the woman and the baby in order that a true picture of their condition may be arrived at and treatment instituted to return them both to normal if possible.

The women are apt to have subinvoluted uteri, retroflexed, retroverted uteri, relaxed uterine supports, infections and erosions of the cervix, relaxed perinei, and bladder supports, inflammatory processes in the tubes or abdominal cavity, relaxed abdominal muscles and fascia, poorly functioning breasts with cracked nipples, constipation, ptosis, broken arches of the feet, broken coccyx, strained sacro-iliac ligaments and many other troubles directly attributable to her pregnancy and delivery.

The babies may be poorly nourished, have inflamed navels or hernia, inflamed breasts, show irritation from head trauma, paralyses, etc.

The minimum requirements for post-natal examination are:

1. History of the delivery.

2. Report of her symptoms since delivery.

3. Examination of breasts and nipples.

4. Examination of abdomen, particularly the fascia, muscles looking for ptosis and movable kidneys.

5. Inspection of perineum and anus.

6. Bimanual examination of vagina and pelvic contents, note being taken of the descent of the uterus and the size and position.

7. Speculum examination to see the condition of the inside of the vagina and the condition of the cervix.

8. Examination of the baby is a report of its departure from the normal, examination of its breasts, mouth, abdomen for hernias and healing of the navel and its anus and prepuce.

9. General instruction to mother about diet, bathing, breast instruction, nursing, exercise, particularly exercises directed to strengthen the abdominal muscles and fascia, sexual life, etc.

10. Instruction to return for treatment in the event that treatment of any departure from normal seems necessary.

To the end that pre-natal and post-natal care may be popularized and made practical for the general practitioners, a committee has been formed, made up of equal representation from the Medical Society of Virginia, the University of Virginia and the Medical College of Virginia. This committee is in the midst of studying the situation of the State and of formulating a plan to demonstrate pre-natal and post-natal care to every doctor in the State.

If every pregnant woman in the State of Virginia could have adequate pre-natal and post-natal treatment, the infant and maternal mortality would be enormously reduced and the doctors would add to their income a very considerable amount.

26 *North Laurel Street.*

PRESIDENTIAL ADDRESS.*

By PAUL C. COLONNA, M. D., New York City.

It is my pleasant duty to welcome you to this seventh annual meeting. All of us who have been able to attend the annual meetings have felt a growing sense of appreciation to Dr. Horsley for conceiving and initiating such an organization. We have at present thirty-one members and are growing each year in numbers and as well, we hope, in scientific endeavor. Therefore, I thought it might not be amiss to tell you very briefly some of the thoughts that occurred to me regarding the opportunities offered to members of an organization such as ours.

The renewing of old friendships at each annual meeting and the forming of new ones among the men who have recently completed their internships is always very helpful. However, this group was organized not only to promote good fellowship but encourage as well scientific activity among its members. Since its inception, the society has perforce grown slowly but the meetings have shown it to possess a wide variety of interests and talents made up, as it is, of geographically scattered units. Moreover, it seems to me, the meetings have helped to strengthen a rather uniform ideal of professional responsibility among us, for we who have had the opportunity of being interns at St. Elizabeth's know "that nothing is more inspiring than a great teacher—one in whom a great passion for truth and an enthusiasm for imparting it burn fiercely."

Another matter which should engage the attention of each of us is a consideration of the problems connected with the future practice of medicine. From the many articles appearing in lay and scientific journals, everyone is forced to realize that the profession is in a period of adjustment that is bound to be far-reaching in its consequences. Upon what basis will ethical conduct be determined? What will be the future relationship between doctor and government or doctor and industry? A solution to these questions is earnestly sought by every local, state, and national organization interested in medical progress. A recent editorial writer in the *Southern Medical Journal* very aptly remarks that "the medical mores are changing. What is ethics in one city is grievance in another." This subject is trenchantly dealt with by Glenn Frank in the January issue of *Surgery, Gynecology and Obstetrics*. He issues a note of warning to the medical profession regarding the medical revolution that is now taking place in society. He feels that the most satisfactory approach to these problems will be in the development of wise medical statesmenship within its ranks which will insist upon a professional house-cleaning and outline a program for the future. This he believes is imperative unless the health and welfare of the nation is to be controlled by such agencies as government, industry, or insurance companies. Not only, says Frank, should the physician attend the sick but it is his duty to spread information and develop interest in the preventive side of medicine. In this, all organizations such as ours can do their bit. As preventive medicine in its broad sense is a step ahead of corrective medicine, it offers the physician the opportunity to assist in developing a stronger and hardier race.

May I now say a few words about the work of the society. During the past several years your program committees have chosen the symposium method, that is having as far as possible the entire program consist of some particular phase of medicine or surgery. This has proven most satisfactory and the members

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of the committee deserve the thanks of each one of us for their unceasing work in the preparation of our program. I think I might speak here for all future Program Committees and ask that members of the society communicate with them as early as possible each year upon any subject they wish discussed at the next meeting. I feel sure that each member of this association feels personally responsible for its growth, for only in this way can it continue to be a virile and vigorous organization. There is one other thing that occurs to me and that is the desirability of closer contact of the members throughout the year. The handbook which is published for the first time this year and upon which your Secretary has worked so hard, will undoubtedly aid in doing this. It is to be hoped that at least it will encourage the exchange of reprints among the members.

In closing I should like to say that I value highly the honor of having been elected President of the Ex-Interns' Association of St. Elizabeth's Hospital.

59 *East 54th Street.*

THYROID PHYSIOLOGY.*

By EDGAR A. HINES, JR., B. S., M. D., Spartanburg, S. C.

The thyroid gland might well be called the energizer of the body. One has only to see a case of myxedema to realize its great importance in maintaining a normal, active life. Of course, we cannot definitely state the role of the endocrine glands in the evolution of life from the lower forms, but it might be conjectured that animal life lifted itself from a sluggish, listless existence in the proterozoic mud and slime to our present mile-a-minute performance through the development of a thyroid gland.

No organ in the body has received more intensive study and in no problems have physiological and clinical research increased more brilliantly our knowledge than have the studies of thyroid function.

To recount briefly some of the epochal discoveries relative to this subject, we must begin in 1874 with Gull's brilliant paper "On a Cretenoid State Supervening in Adult Life in Women" in which hypothyroidism was first described. Five years later Orb, in performing a necropsy on a patient who had had hypothyroid symptoms, found a mucin-like material in the subcutaneous tissues, and he gave us the name *myxedema*. The exact relation of the thyroid to myxedema was not clear, however, until Kocher and Reverdin described a similar condition occurring after complete extirpation of the thyroid gland in some of their patients. In 1895 Bauman discovered that thyroid tissue contained iodine and thereby opened the field for the extensive biochemical studies which have followed. Oswald later demonstrated that the iodine was in the form of idothyroglobin and in 1914 Kendall isolated the activating hormone *thyroxin*. Harrington, after a series of brilliant experiments in 1926 determined the chemical structure of thyroxin and a short time later produced a similar substance synthetically.

To enumerate some of the clinical contributions to the solution of this problem, we must cite Murray's suucessful treatment of a case of myxedema by feeding thyroid extract, started in 1891; Marine and Kimball's prophylactic use of iodine compounds for the prevention of goiter in school-children, and Plummer and Boothby's use of Lugol's solution in lowering the hyperthyroid symptoms of Graves' disease.

Outstanding, among the more recent studies, are those of Harvey, of the Rowlette Research Institute, Rabinowitch, of the Montreal General Hospital and Cameron and Fraser, of the University of Manitoba, on the relation of vitamin feeding to thyroid activities. They have shown that the combination of Vitamin A and D with iodized fatty acids or even with sodium iodide produces the same powerful effect as Lugol's solution but that they are inactive if given separately. These studies bring us another field of thyroid investigation.

A consideration of thyroid physiology must include first, a study of the composition and function of the thyroid secretions *per se*, and secondly, the interrelation of the thyroid with the other endocrine glands.

Iodine is the *alpha* and *omega* of the study of thyroid function. Around this simple element revolves the whole activity of this important gland. It is through this iodine that the powerful activating hormone thyroxin is elaborated.

The major function of the thyroid is to pro-

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vide a means for maintaining a higher rate of metabolism than would otherwise obtain and for varying this rate to meet the changing bodily demands. Or as Marine has aptly said, "Physiologically, the lung has to do with external respiration, while the thyroid has to do in some important way with internal respiration or the utilization of oxygen by the tissues." There is not a cell in the body which is not influenced by this gland. That the thyroid is not necessary to life is evident from observation but, as Crile has said, it is "synonymous with making life worth living." Experiment has repeatedly shown that only 40 per cent of metabolism is under thyroid control. Cretins, persons with myxedema and those with cachexia strumipriva maintain metabolism of approximately 60 per cent of normal.

Biochemically, we might say that the function of this gland is to maintain 14 mg. of thyroxin in the body or to elaborate and deliver 0.33 mg. of thyroxin daily. (The tremendous power of this hormone is strikingly demonstrated by the fact that the minute quantity of only 0.33 mg. daily is needed to maintain a normal metabolism.)

Physiologically, however, we must go much further and say that it is concerned with metabolism, heat production, growth, endocrine balance, intellectual and emotional stability, with the regulation of the circulation and possibly with detoxication.

We have already discussed the thyroid effect on metabolism. That this organ is intimately concerned with heat production has been abundantly proved by experiments in which it has been shown that administration of thyroid gland causes a striking increase in heat production; that there is a normal rise in heat production during pregnancy and lactation which is greatly reduced by thyroidectomy, and that thyroidectomy causes a decrease in heat production.

Cretinism, in which there is a congenital absence or atrophy of thyroid tissue, is proof enough of the influence of this organ upon growth. To further this proof, I might cite the interesting experiment whereby tadpoles have been caused to go through their metamorphosis in a fraction of the normal time by adding thyroid extract to the water in which they were living.

There is little doubt that the thyroid through its relation with the pituitary and adrenals has some influence on the circulation. Clinically this may be shown by the increase of the blood pressure in hyperthyroidism and following large doses of thyroid extract.

The influence upon intellectual and emotional stability is shown by the close resemblance of the attitude of fright to that of exophthalmic goiter. The simulation is so marked that the term "frozen fright" has been ingeniously applied to Graves' disease. The expressionless face of the cretin or person with myxedema indicates a complete lack of emotion.

The observations of many physiologists and clinicians seems to indicate that the thyroid, in some undetermined manner, influences bactericidal and antitoxic properties of the blood and that removal of this gland definitely impairs these properties.

Finally, we come to the interrelationship of the thyroid with the other endocrine glands. In this field we find most of our remaining thyroid problems. I shall briefly summarize the different glanular relations:

Thyroid-parathyroid: The present opinion seems to be that there is no definite relation.

Thyroid-pituitary: That there is a definite relation here has been shown by the fact that the pituitary becomes hypertrophied after thyroidectomy and that administration of pituitary extract is sometimes of benefit in hypothyroidism.

Thyroid-adrenals: Here the relationship seems to be closer than with any other gland. The hypersensitiveness of cases of exophthalmic goiter to adrenalin is a clinical application of this relationship.

Thyroid-thymus: No relationship has been proved.

Thyroid-sex glands: Nothing certain has been proved here, but observation, even by the ancients, of the enlargement of the thyroid with menstruation and pregnancy shows some intimate association of these glands.

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THE SURGICAL TREATMENT OF GOITER.*

By R. G. WATERHOUSE, Jr., M. D., Knoxville, Tenn.

Surgery of the thyroid gland is mainly concerned with its partial removal. Derangements of the thyroid gland, at least those giving rise to enlargement, that is goiter, have been known and recognized since the earliest times. And hyperthyroidism has been known to the profession since the days of Graves, Parry and Basedow. The surgery of the thyroid gland has no such antiquity.

Only forty-five thyroidectomies had been recorded in the United States prior to 1883. And the development of the operative treatment of hyperthyroidism belongs to the present century. Anything like a complete understanding of this latter condition dates only from the beginning of the clinical determination of the basal metabolic rate.

The high mortality rate in early goiter work was in all probability due to failure to recognize the presence of hyperthyroidism and lack of knowledge as to the proper method of controlling it.

If hyperthyroidism was diagnosed it was usual to hope or wait for a remission in the disease before undertaking operation.

As late as eight years ago one of the large clinics in this country was refusing operation in advanced cases of hyperthyroidism and referring these cases to the medical department, with a consequent high medical mortality rate.

However, as early as 1917 Dr. George W. Crile, of Cleveland, had reported results of 2,169 operations for goiter, 1,020 of which had been for hyperthyroidism. He views hyperthyroidism as a tremendous pathologic kinetic drive in which the endocrine glands and the nervous system were all involved, and the thyroid gland as the link in the chain most available to surgical attack. He held that this kinetic drive could be modified in four ways.

1. By eliminating or diminishing the external and internal driving stimuli.

2. By depressing the sensitiveness of the nervous system.

3. By diminishing the amount of thyroid tissue.

4. Probably by diminishing the suprarenal tissue.

As repeatedly pointed out by him, these extremely hypersensitive patients may be killed by worry, fear, work, slight injury, surgical trauma, surgical anaesthesia, even mild infection. Any of these things may usher in a "hyperthyroid crisis" in which the metabolic rate, the pulse, and temperature rise rapidly, intracellular then actual acidosis develops, followed, if uncontrolled, by coma and death. Hence Dr. Crile recommended and instituted for these patients a system of handling which he termed anociated treatment in the broadest sense.

In the preparation period, rest in bed was secured, aided, when needed, and it almost always was, by bromides and such drugs as the barbituric acid compounds, or morphine if necessary. Everything possible was done to give the patient an optimistic outlook, and all worry, anxiety, etc., as far as possible was eliminated. During this period cardiac or other complications were appropriately treated and an effort made to secure a normal water, salt and food balance.

The object of operative procedure was to diminish thyroid activity. Early Dr. Crile tried many types of treatment, including injection of quinine and urea, radiation, etc. Eventually a definite series of step or stage operations was developed.

1. Ligation of one superior pole.
2. Ligation of the other superior pole.
3. Lobectomy, neck left open.
4. Thyroidectomy, wound left open.
5. Thyroidectomy, closed.

The operation done depended wholly on the risk status of the patient. In the extremely active cases ligation of one, then the other

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superior thyroid pole was done under local anaesthesia, the patient then being allowed to go home for about three months, after which time enough improvement had usually taken place to make lobectomy feasible.

In better risk patients a lobectomy or a bilateral partial thyroidectomy was done at once, the resection of the gland being so planned that at any time during the operation or at any stage the operation could be stopped if the condition of the patient made it desirable. The desired amount of gland or of one lobe having been removed, the neck was packed open or closed as conditions indicated.

At first the severe cases, later all cases, were operated on in bed to avoid the psychic and physical strain of transportation to the operating room. Ether anaesthesia was used by Dr. Crile in the earlier cases, but, because ether itself could stimulate a crisis, novocain infiltration with nitrous oxide-oxygen analgesia was substituted, being followed by a gratifying lowering of the mortality rate.

The post-operative "hyperthyroid crisis" or drive was controlled:

1. By sedatives, as with morphine.
2. Hypodermoclysis to keep up the water and salt balance and to aid elimination.
3. By ice packs.

The first two require no comment. The third by lowering the temperature of the organism slowed bodily chemical reactions, lowered or checked the excessive metabolic changes, and thereby protected the individual.

After a successful operation the patient was ready to go home in a few days. There treatment was continued by a strict regime of diet and rest until maximum benefit from the operation was obtained.

So much for the development of surgery of the thyroid gland. If Dr. Crile has seemed to play a very prominent part in this paper, it is only because he played a more prominent part in the development of goiter surgery. When he began his work surgical operations upon the thyroid gland were undertaken with much misgiving and uncertainty of outcome. Today we may say that operation upon the thyroid gland is indicated in:

1. Benign enlargements of the gland, which are unsightly or by reason of size or position, cause pressure symptoms, obstruction of breathing, etc.
2. In the case of the "fetal" adenoma for the prevention of carcinoma. Ninety-four per cent of thyroid carcinomata arise in fetal adenomata. Ten per cent of fetal adenomata removed at operation show malignant change.
3. In hyperthyroidism.

It is generally considered whenever a sufficient degree of hyperthyroidism is present to make a diagnosis, with the possible exception of certain induced cases particularly at or near adolescence, that operation is always indicated. In any event, the advisability of operation should be carefully considered and the patient carefully watched whenever a diagnosable degree of overactivity exists.

Pre-Operative Treatment

The present treatment pre-operatively differs from that originally outlined by Dr. Crile only in the use of Lugol's solution. As early as 1911, Marine stated that the administration of iodine would lower the metabolic rate, but not until 1922, when Plummer suggested the use of Lugol's solution in large doses, was its value definitely proven. Now the routine preparation of a case of hyperthyroidism consists of the following measures: (1) absolute rest in bed, (2) luminal or bromides for sedation, (3) large quantities of fluids and food (omitting meats and other high protein foods and all stimulants), (4) Lugol's solution in fifteen minim doses given in cream three times a day, and (5) thyroid extract in two grain doses the night before and morning of operation to prevent a too sudden deprivation of thyroid secretion.

The maximum improvement with Lugol's solution occurs in six to twelve days. The operation is timed to take advantage of this improvement. It must be remembered that this improvement produced by the iodine is merely a temporary remission in the disease. Even small doses of iodine, if continued, cause an exacerbation of symptoms and increase in the metabolic rate, and a new high level of the disease may be established and maintained, or, if iodine be suddenly stopped, an exacerbation may occur. It also appears that once an iodine remission has been secured, subsequent treatment with iodine is not so satisfactory. Iodine should only be used in hyperthyroidism in preparation for operation.

Digitalis is given, not to slow the heart rate in hyperthyroidism except in the case of fibril-

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lation, but because of its stimulating action on the heart muscle. The heart in hyperthyroidism at first presents a simple tachycardia, then dilatation and murmurs, then flutter or fibrillation, and, finally, almost any type of arrhythmia and degree of decompensation. Enough digitalis should be given pre-operatively to secure the best cardiac condition possible. In mild cases of cardiac impairment a small amount of digitalis may prevent post-operative cardiac embarrassment during the reaction period.

Operative Treatment

The technique of the operation may be briefly described:

1. A low collar incision of ample length.
2. Dissection of the skin flaps upward to the thyroid cartilage and downward to the sternum.
3. Longitudial division in the mid-line of the ribbon muscles and transverse division of these muscles between clamps in large goiter if the longitudinal division does not give adequate exposure.
4. Beginning resection of the gland from its attachments to the trachea, carry the resection downward and outward in the gland to the posterior capsule, securing hematosis with accurate small hemostats and leaving a sufficient amount of thyroid tissue to cover and protect the parathyroid glands and recurrent laryngeal nerves both from injury at operation and from subsequent scar tissue formation. As this resection proceeds and the gland is freed from the trachea, it is gradually, without undue traction, delivered into the operative field and only enough tissue left for the physiological needs of the patient. The amount of tissue to be left depends on the age of the patient and the severity and duration of the disease. More gland should be left in the old and more in the slowly developing cases, but less in the young and in the acute cases running a stormy course with marked fluctuation. The basal metabolic rate as determined in the laboratory is no indication of the severity of the disease, but the amount and rapidity of the weight loss is. No absolute rule can be laid down, but best results are obtained when a mild "hypo" condition is produced that lasts from three to six months, during which time reparation of the entire endocrine and nervous system can take place.
5. Hematosis is secured with catgut ties and suture ligatures.
6. Muscles approximated in mid-line.
7. Drain usually inserted.
8. Skin closed with skin clips, or wound packed open—to be closed at a later date.

In intrathoracic goiter even greater care must be taken in freeing the gland below the level of the clavicle and sternum because severe hemorrhage may occur. Having carefully freed the lobe, the intrathoracic portion can usually be gently delivered into the field. Expansion of the lung will soon close the intrathoracic cavity and bring the whole field into view so that careful hemostasis can be secured, but if there is the slightest oozing the cavity should be packed lightly with gauze and the neck left open for subsequent closure, because bleeding into the mediastinum, if it occurs, is very dangerous of itself, and a subsequent mediastinitis is apt to develop which is almost uniformly fatal.

Post-Operative Treatment

One of the most important post-operative complications is stridor. This may be due to nerve injury—bilateral or unilateral. If for any reason there is difficulty in breathing post-operatively, a tracheotomy should be done and that before the patient has become cyanosed. Unless immediately relieved, the patient may very promptly pass into a coma from which he may never arouse.

Post-operative hemorrhage is a serious complication, and, if unattended, the patient suffocates from pressure of the blood clot on the trachea.

Post-operative tetany is fortunately not frequently seen. If it occurs, the parathyroid hormone of Collip is most effectual in its treatment. If blood calcium is lowered, calcium chloride or lactate should be administered.

The post-operative hyperthyroid crisis, since the use of Lugol's solution, is not so common. When it occurs, it should be combated by ice-caps, ten to fifteen or twenty in number, and, if necessary, the complete ice pack. The wound should be carefully inspected and any serum drained away. Often the removal of a very small amount of serum will cause almost immediate amelioration of symptoms.

Occasionally an acute restlessness with circum-oral pallor and a dry shiny skin is seen

post-operatively. This is due to acute deprivation of thyroid secretion and calls for the administration of thyroid extract.

Tracheitis is an annoying post-operative complication. Its prevention consists in leaving the trachea well covered with fascia at operation. If it exists, inhalations of compound tincture of benzoin are beneficial.

Immediately after the operation 2,000 c.c. of saline should be given by hypodermoclysis. Pre-operatively each patient should be typed and donors secured. If there is hemorrhage or if need arises, the patient should be transfused. A good rule is, when in doubt, transfuse. If for any reason a donor is not available, 5 per cent glucose solution intravenously is a good substitute for whole blood.

In no branch of surgery is prompt action so essential as in thyroid surgery. Therefore, anticipate every emergency and treat it almost before it arises.

The end-results of surgery of the thyroid gland, when carried out as outlined, are very gratifying. The mortality has been reduced to about 1 per cent, and most of the deaths are due to embolism, massive collapse of the lungs, and such accidents against which as yet we have no adequate defense.

The end-result as to restoration of health depends, first, on the degree of damage to other organs—particularly the heart. Therefore, patients should be operated on early in the disease before permanent injury has occurred. Second, there must be an accurate estimate of the operability of the patient, insuring proper preparation and proper selection of the operative steps, so that he comes through with maximum reserve.

An amount of gland must be removed to relieve the symptoms and prevent recurrence. An amount of gland must be left sufficient to protect the parathyroid gland and recurrent nerves and carry on the physiological needs of the individual.

I think we can safely say that the outlook for the patient undergoing an operation on the thyroid gland is as good as that in any other major surgical condition.

Laugh everytime you feel tickled and laugh once in a while anyway.—*Selected.*

EFFECTS OF THYROID DISEASE ON THE HEART AND CIRCULATION.*

By A. A. HOUSER, M. D., Richmond, Va.

The cardiac disturbances associated with thyroid disease were the most striking features observed by Parry[1] in 1815 in the first described cases of exophthalmic goiter. His first case died with heart failure. Heart and circulation disturbances, more often than otherwise, are associated with every type of thyroid disease.

The simplest cardiovascular disturbances caused by thyroid disease may be from pressure of a large colloid goiter, mechanically preventing the adequate filling of the lungs with air, producing emphysema and later asphyxia. The continued deficient aeration of the blood may lead to cardiac overstrain and myocardial weakness. The goiter may press on the sympathetic ganglia, on one or both sides of the neck, stimulating the accelerators, producing a tachycardia simulating that of Basedow's disease.

In hypothyroidism there is usually a cardiac disturbance of some kind, often shortness of breath, weak pulse, sometimes slow heart rate, though there may be a fast heart. There seems to be a tendency in myxedema to early arteriosclerosis.

In 162 cases of high grade myxedema studied by Willius and Haines[2] at the Mayo Clinic, there was no heart failure or cardiovascular disease that they could conclude was caused by the myxedema.

There were many electro-cardiographic abnormalities that disappeared under thyroid medication. They concluded there was no justification of a cardiovascular syndrome characteristic of myxedema.

Fahr[3] reports that six cases of untreated myxedema seen by him over a period of four years at the Minneapolis General Hospital and Minnesota University Hospital had symptoms and signs of heart failure that cleared up with thyroid medication.

The larger interest in goiter is in Basedow's disease and likewise the heart disturbances that are often associated. The heart behavior in cases of hyperthyroidism is varied beyond the possibility of description, tachycardia being the most consistent disturbance.

*Read before the Seventh Annual Meeting of the Ex-Interns' Association of St. Elizabeth's Hospital, Richmond, Va., October 7, 1930.

Foster[4] says that cardiac symptoms with thyroid disease are the usual occurrence, but hyperthyroid disturbance may be very pronounced without evidence of heart disease. The so-called heart deaths that follow operation are seldom due to heart failure; they are usually the result of vascular failures. There is a dilatation of the peripheral blood vessels, a sharp drop in diastolic blood pressure, a condition simulating shock. He also states that the commonest type of heart disturbances is auricular fibrillation. Whether this arrhythmia is due to lesions in the myocardium or to nerve influence is not known. Heart block and auricular flutter are of rare occurrence and, when they happen, probably denote serious myocardial degeneration. In the cases of auricular fibrillation, a reversion to normal rhythm may be usually secured by proper treatment, which includes rest, digitalis, and quinidin.

Phillips and Anderson,[5] in a study of 120 cases of auricular fibrillation associated with hyperthyroidism, found that 60 per cent returned to normal rhythm after operation. In case the normal rhythm is not restored, thyroidectomy will improve the heart quality to a degree that it can be controlled by digitalis.

Huxthal[6] concluded after the examination of 500 cases of hyperthyroidism over a period of fifteen months that, if thyrotoxicosis injures the normal heart, there should be more evidence before the age of forty. He believed that thyrotoxicosis has a specific excitatory effect on the heart and that this, more than the extreme work, produces failures in a heart weakened by the degenerative changes of age. He also believed immediate removal of thyroid toxicity by surgical procedure the best means of avoiding congestive heart failures.

Babcock's[7] book published in 1905 still covers the subject very adequately. His entire statement on the subject of goiter heart is, "The hypertrophy and dilatation of the heart observed in exophthalmic goiter is to be attributed not to the tachycardia but to the underlying condition, whatever that may be."

In discussing the effects of any existing pathological condition upon the heart and circulatory system, there is a more or less universal tendency to disregard all evidences of heart or circulatory functional disturbances until well established pathology is produced. Reasonably normal circulatory systems are capable of a great deal of abuse before they show positive evidences of degenerative changes. There is no organ that is so functionally receptive to the existence of slight pathological or functional embarrassment of the individual as the heart. As yet there is no means of discussing these changes as they come more under the sphere of art than of science.

Thyroid disease is a great disturbing force to the individual, and I believe always manifests some disturbance to the cardiovascular mechanism, but the variations are too wide for charting a definite thyroid cardiovascular syndrome.

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DIAGNOSIS AND TREATMENT OF THYROID DISEASES IN CHILDREN.*

By W. AMBROSE McGEE, M. D., Richmond, Va.

It is unfortunate that the classification of thyroid diseases is so vague and varied. A different nomenclature has been adopted in nearly every work on that gland.[1] Some of the present day terms are merely descriptive of a prominent symptom.

Thyroid diseases, while not so common among children as among adults, occur more frequently than was formerly believed. Toxic thyroids, so prevalent among adults, are rarely seen under twelve years of age. A simple, though fairly comprehensive classification of thyroid diseases in children is as follows—simple goiter, hypothyroidism and hyperthyroidism or thyrotoxicosis. Neoplasms and inflammations of the thyroid are so rarely seen that they are worthy only of mention.

Simple goiter is rarely seen under five years of age. It is often called adolescent goiter or physiological enlargement of the thyroid. This condition occurs frequently among girls before puberty. It is commoner in regions in which the iodine content of water is very low.

*Read before the Seventh Annual Meeting of the Ex-Interns' Association of St. Elizabeth's Hospital, Richmond, Va., October 7, 1930.

The disturbance can usually be prevented by adding one part of iodine to a million parts of water or by the use of iodine salts. The iodine salts most generally used are iodized table salt (which is prepared by adding 5 mg. of potassium or sodium iodide to a kilogram of sodium chloride); chocolate iodine tablets in doses of 3-10 mg. once weekly[2] and sodium iodide in doses of 30 centigrams twice daily each spring and autumn, until 2 gm. have been given.[3] It is advisable to begin these salts at age ten and to continue them till sixteen years of age in regions where goiters are prevalent. Whenever a mother has a thyroid enlargement, one should certainly consider the use of iodine as a prophylactic measure for the child. Care must be exercised that no patient with adenomatous goiter receives iodine, but fortunately one practically never sees that type of thyroid disturbance under twelve years of age. The age of the child with a goiter plus the normal or nearly normal metabolic rate are all that is usually necessary to diagnose the condition of simple or adolescent goiter. Patients with simple goiter should be watched subsequently for at least one year.

It is commonly thought that goiters are more prevalent inland than on the sea coast due to less iodine in the water in the interior. There has also been an idea that the iodine was spray-borne along the sea coast. Weston[4] proved rather conclusively in his State of South Carolina that such is not true, and, on the contrary, there is less iodine per million gallons of water on the sea coast than inland. It looks as if something else is a factor besides the iodine content of water and inheritance in explaining the cause of goiters. Weston believes that South Carolina has such a low incidence of goiter because of the richness of iron, copper, manganese and iodine in its soil. He feels that the combination of the four minerals rather than iodine alone must be a factor in preventing thyroid enlargements in South Carolina. Because of the splendid work of Weston and his co-worker, Remington,[5] South Carolina foods have been most carefully analyzed, and canned goods from that state bear labels showing their usual mineral content. This idea may do much to lower the incidence of goiters in the future.

The most common thyroid disturbance in childhood is hypothyroidism. Where there is a lack of thyroid function early in life the condition is spoken of as cretinism; where there is a deficiency or absence of the thyroid hormone after the growth impulse has subsided, the hypothyrodism is called myxedema, and where the basal metabolic rate is slightly below normal, the term mild hypothyroidism is used to designate the condition.

Cretinism is rarely endemic in this country. It occurs sporadically with heredity playing a big part. Herrman[6] believes cretinism is not due entirely to hypothyroidism but to other members of the endocrine system, especially the anterior lobe of the pituitary gland. A typical cretin is easily recognized after six months of age. The earliest symptoms are sparseness of hair, thickening of the subcutaneous tissues and slight hoarseness in a child who is unusually quiet. The outstanding signs and symptoms of a typical complete cretin after six months of age are exaggeration of the early symptoms just mentioned; disproportion of bodily structures (short arms and legs, long trunk and large head); slow ossification; thick open lips; low wrinkled forehead, eyes widely separated; protruding tongue and large umbilical hernia. In older cretins a dwarfed body with regular deposits of fat in the supraclavicular region, in the axilla, between the scapulae and occasionally in other parts of the body will usually be noted. Basal metabolic tests will show a minus 20-40 per cent unless malnutrition is present.[6]

In the treatment of cretinism, thyroid extract acts most satisfactorily if begun early in infancy and continued until after puberty or for life. Complete mental and physical cure is probable if thyroid extract is started before four months of age. Before beginning thyroid extract it is imperative to establish diagnosis, for metabolic tests are not of diagnostic value during treatment and both signs and symptoms are obscured or never develop.

The daily dose of thyroid extract recommended by Talbot[9] is ¼ grain from 2-4 months; ½ grain from 4-8 months, ¾-1 grain from 8-12 months, 1-2 grains from 12-24 months, 1½-3 grains from 2-4 years and 3-6 grains from 4 to 12 years.

Myxedema of childhood or late hypothyroidism is relatively uncommon among children. There is no permanent mental dullness and that which is temporarily present can be restored to normal by treatment with thyroid extract. There is little or no abnormality of

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development due to the late deficiency of thyroid function. Outstanding signs and symptoms are constipation, lack of perspiration, hoarseness, some thickening of the tongue and lips, a feeling of coldness, puffiness of upper eyelids, cessation of growth and a sort of expressionless face, increase in weight, dry thick skin which does not pit on pressure and a metabolic rate as low a minus 20 per cent.

Mild hypothyroidism is a very obscure condition which can only be diagnosed by the metabolic rate. There is usually delayed growth and some slight mental dullness which causes the child to be unusually quiet and silent. Occasionally some children with eczema fall into this group and they are greatly benefited by thyroid extract. This is perhaps the most common endocrine dystrophy of childhood. Infants whose diets are properly managed and who fail to grow should be suspected of thyroid deficiency. There may be some puffiness beneath eyes resembling nephritic edema. These patients often have a slow pulse, sub-normal temperature and slow respiration. Thyroid extract also greatly benefits this group of cases.

It is peculiar that thyroid extract even in relatively large doses (15 gr. daily) has no effect on basal metabolism of normal children but stimulates growth.[8] Topper and Cohen[9] question whether or not the basal metabolism should be the criterion of the effect of thyroid therapy in normal children, especially as thyroid produces other physiological and metabolic responses.

Hyperthyroidism in children is perhaps more common than was formerly supposed. Its etiology is unknown. The onset is usually abrupt and the clinical course rapid. The signs and symptoms are similar to those in adults except presence of choreiform movements and weakness of quadriceps femoris in children. The most characteristic evidence of hyperthyroidism is enlargement of the thyroid gland, tachycardia, tremor of the extremities, restlessness, irritability, nervousness, nervous instability, exophthalmos and elevation of basal metabolic rate. There is a less degree of exophthalmos and less increase in basal metabolic rate in children. Helmholtz[10] found that the severity of the ocular symptoms does not necessarily indicate the degree of hyperthyroidism. One almost never sees hyperthyroidism among children in non-goiter regions.

Medical treatment of toxic thyroid in children consists in absolute rest and administration of adequate food. As long as there is improvement this plan of treatment should be continued. Lugol's solution is not used to any extent except just before an operation. Children should be kept quiet until their metabolic rate remains about 15 per cent above normal. Care should be taken to avoid endocarditis.

If the child fails to improve with absolute rest and adequate food, radiation should be used. That procedure offers more satisfaction and at the present time is safer than operative measures. It should, however, be given under the supervision of the surgeon. When an enlarged toxic goiter mechanically obstructs the trachea it is essential to rely on surgery. Unfortunately children are extremely susceptible to all kinds of operative procedures, but where there are foci of infections these should first be removed.

It is important to make a proper diagnosis early in thyroid disturbances of childhood, for the prognosis is better and the outcome more desirable. Thyroid extract has proven of great value in treating forms of hypothyroidism, while iodine has done much to reduce the incidence of thyroid disorders. Where the latter is given to mothers with thyroid enlargements other than toxic adenomas, there is little likelihood that the offspring will be a potential thyroid case.

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DISCUSSION OF PAPERS ON THE THYROID GLAND BY DRS. HINES, WATERHOUSE, HOUSER AND MCGEE.

DR. W. C. CAUDILL, Petersburg, Va.: The subject of these papers is an extremely interesting one. I wish, first, to congratulate the essayists on their papers; they have covered the subject in a very clear, concise manner.

I am interested particularly in the surgery of the thyroid gland. It has become a most satisfactory type of work in our clinic. We have had more than ninety cases operated upon on our service without a mortality. These cases have included some of the most difficult types of thyroid operations that I have seen anywhere; some of the patients were extremely toxic and some had marked changes in the heart. The outline of treatment which has been discussed here is the one that we follow largely. We consider the preparatory treatment of luminal, digitalis and Lugol's solution, and follow the operation with dextrose and a continuation of the Lugol's solution, as being the most favorable for the best results.

One part of this treatment which I believe has been introduced recently has, in my judgment, added more to the safety of thyroid surgery than any other one thing. That part is sodium amytal. We have been using this with local anesthesia, and find that the patients, instead of being restless and ill at ease, as they formerly were during the operation, actually go to sleep, are perfectly quiet, and the operation can be done under local anesthesia with the patient entirely comfortable. I believe it is one of the greatest advances that we have had in surgery of the thyroid gland.

DR. O. O. ASHWORTH, Richmond, Va.: It is needless to say that I have enjoyed all of these papers. I was especially interested in the paper read by Dr. Houser on the effects of thyroid disease on the heart and circulation. He covered his subject well, and emphasized particularly two things in regard to the effect of thyroid disease on the heart and circulation, that there is a factor which is largely mechanical, due not only to pressure from the enlarged thyroid gland but also to vascular dilatation; that is, the heart pounding against a vascular system which apparently is incompetent, due to overactivity of the sympathetic nervous system. We often see patients flushing around the neck with dilatation of the smaller blood vessels near the skin. We do not know exactly why the heart enlarges in these cases except from overwork to overcome the vascular dilatation to maintain proper circulation, and from so-called thyrotoxicosis. There are important complications, of course, such as auricular fibrillation and the various arrhythmias.

It is interesting to note at the Mayo Clinic, where many heart cases are seen, that more than fifty per cent of their goiter cases go to the clinic as heart cases, and are referred, after metabolism tests, to the goiter clinic.

DR. H. J. WARTHEN, JR., Baltimore, Md.: Dr. McGee said in his paper that he did not advise giving Lugol's solution in cases of toxic adenoma of the thyroid in children. I am not quite sure whether he meant a benign adenoma, or the so-called toxic adenoma. I know that in some cases iodine is not indicated in toxic adenoma, and some writers go so far as to say that there is only one class of adenoma, which is benign; of course, if he refers to these, iodine would not be indicated.

DR. D. G. CHAPMAN, Richmond, Va.: Each paper read has been very interesting, but, like Dr. Ashworth, I wish to discuss particularly Dr. Houser's paper. I have recently seen two cases of hypothyroidism which were rather unusual, in that they had been treated in three different hospitals in a colder climate for angina pectoris.

One case was advised to go to South America because the cold weather precipitated the anginal attacks. She went to South America and went from there to England, where it was somewhat cold; there she had several attacks. She came to this country, and when the weather became cold, the angina returned. She was having about ten attacks of angina a day when I saw her, and after she entered the hospital she would take 10 to 36 grains of nitroglycerine daily. This continued for about four days. The chief symptom was sensitiveness to cold; the patient could not allow her arms to become uncovered, and kept the covers tucked closely under her chin. Thyroid extract was given, and in three days the anginal attacks had ceased. She was soon out of bed, and has had no further trouble.

Another case was that of a Polish man, rather heavy set, weighing about 190 pounds. His first symptoms were noticed during the War, where he was exposed to cold and probably a certain amount of fright. When he came to this country he went North, where he suffered a great deal from cold. He spent the winter in Florida but, on returning home through Richmond, the weather was cold and the symptoms returned. He, too, was put on thyroid extract, and in four days the symptoms were cleared up. He has remained symptom-free since that time.

A third case was unusual in that the chief symptom was a rapid heart, which is seldom thought to be due to thyroid deficiency. This patient had a normal pulse rate of 60 per minute, but on exertion the rate would rise to 140 to 160 per minute. A few days after thyroid extract was given the patient felt better and has remained well. Digitals had been previously given in this case at several different times, without any effect.

DR. WRIGHT CLARKSON, Petersburg, Va.: I would like to ask how frequently calcified thyroid cysts are found. I have found one accidentally in doing some routine work at the Central State Hospital at Petersburg. The patient was a man with a very large growth beneath the chin in the thyroid region. On X-ray examination I found a calcified cyst four or five centimeters in diameter with a very dense calcified wall. The patient died following operation, and the growth proved to be a calcified thyroid cyst.

DR. J. SHELTON HORSLEY, Richmond, Va.: These are good papers, and an excellent oration. I happen to have had a case similar to the one reported by Dr. Dunn. A large sarcoma of the orbit was amputated by tying a ligature about it. It sloughed off, and the child died afterwards. Whether they are operated upon or not, these cases are almost always fatal.

In the thyroid symposium, the paper on the physiology of the thyroid and the discussion were quite interesting. I have seen recently an article, I think in the *Archives of Surgery*, in which the author is inclined to believe that many of the cases of heart disease from hyperthyroidism are probably due indirectly to the thyroid stimulation of the metabo-

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lism. In other words, it may be a slightly diseased heart at first, and the stimulation of the excessive metabolism draws out defects in the heart which otherwise possibly would not have occurred. When the patient is examined for disease of the heart, taking exercise, such as going up steps, brings out the defect. The case of heart trouble reported by Dr. Chapman was on the other extreme. To give a patient with a bad heart and a normal metabolism rate thyroid extract would be foolish and might be extremely dangerous, with about the same effect as over-exercise, but when the metabolism rate is low, thyroid extract is definitely needed and gives good results. This shows the necessity of studying these cases carefully to find out which cases are actually heart cases from hypothyroidism and which are hyperthyroidism cases.

Dr. Waterhouse, in his paper on surgery of the thyroid, summed the matter up quite thoroughly, but there are one or two devices which we use that seem to be advantageous. In the last five years I do not think we have had a death from hyperthyroidism, though we have had no enormous number of cases—probably 115 or 120. We have changed our technic a little, and have been using avertin anesthesia. In addition to that, the preliminary and post-operative treatment is, I think, very valuable. The use of dextrose and Ringer's solution is of great value in these cases. I had a little girl, nine or ten years old—the youngest patient I have ever operated upon for hyperthyroidism—on whom I did a partial bilateral thyroid lobectomy. I believe we helped that case enormously by giving intravenously dextrose and Ringer's solution, which not only prevents dehydration, but acts as a buffer for the metabolism. In other words, something must be burned; we put dextrose in the blood and let the excessive metabolism burn that instead of the tissues. This can be given continuously. Some time ago I operated upon a patient in whom the gland was not very large, and closed the wound without drainage. The patient did very well at first, then had severe symptoms of hyperthyroidism; the temperature was quite high and she became delirious. I opened the wound and put in drainage, and used dextrose intravenously. I believe if these measures had not been used the patient would have died. I know now that all of these cases should have drainage inserted at the time of operation.

I would add to the treatment which has been outlined, then, the use of dextrose solution, 5 per cent., or if the hyperthyroidism is very marked, a 10 per cent. solution may be used in Ringer's.

Calcified thyroid cysts (as mentioned by Dr. Clarkson), are by no means common. It is fairly common to find areas of calcification in a so-called adenoma of the thyroid. I have had two or three cases in which almost the whole wall was filled with deposits of calcium.

Dr. A. A. Houser, Richmond, Va.: I wish to make one statement in regard to my present conception of hearts and thyroids. I feel rather antagonistic to the cardiologists or to there being a syndrome of any disease. I feel that a much more important thing to know about the heart is the sound of a normal heart. I believe that there are few normal hearts, not that all hearts are actually diseased, but there are a few hearts with the right kind of muscular ring. I think when we advance further in education concerning hearts, we will find out what a normal heart should sound like. I do not think there is an organ in the body that reflects the well-being of the entire body as the heart does. When we find a bad heart, whether it be a tachycardia or whether it is merely an unusual heart sound, I think it should be an urge to send for some one who can find out what the sound means.

It is a perfectly normal thing to find heart disturbances associated with thyroid disease, but the kind of heart disturbance is the important thing. We, of course, expect in any condition that disturbs the function of the body as hyperthyroidism does, to find a disorder of the heart. I do not think we should expect to have a syndrome, but at least some slight disorder. We hear of people dying from "heart failure" from worry, over the stock market or any other worry, people who are frightened, or pessimistic about things, or are unhappy; often they drop dead in the streets. In these people there is a great heart disturbance associated with their mental state, whether they have had any thyroid disturbances or not. Thyroid disease always tells us that something is wrong with the individual. Sir James Mackenzie summed it up by saying that "A rested heart never fails." The state of the individual has a great deal to do with the condition of the heart. If we can get a heart to tone down to its normal capacity, we would have fewer "heart failures."

Dr. W. A. McGee, Richmond, Va.: In children we use a great deal of phenobarbital in thyroid cases and in other conditions. In talking over the use of various preparations of this kind with the chief pharmacologist at the Medical College of Virginia, he said that amytal is the safest of all the preparations. Since then we have changed from the use of phenobarbital to amytal.

In thyroid diseases of children, as preventive measures, we use iodine in some tablet form. In suspicious toxic adenomas we rather hesitate to use iodine, however, for fear that it may make the condition worse.

Children often are a little more sensitive to treatment, or surgery, than adults, just as a hyperthyroid patient is a little more sensitive than the ordinary patient. They react somewhat more strongly to drugs or to any other treatment.

CESAREAN SECTION WITH SPECIAL REFERENCE TO THE LOWER SEGMENT TRANSVERSE INCISION—CASE ANALYSES.*

By WAVERLY R. PAYNE, M. D., Newport News, Va.

At the present time obstetricians the world over are expending much time and thought in an effort to develop certain methods which may be employed with a fair degree of safety in certain cases which have heretofore resulted in a high mortality when the classical Cesarean section was employed. The evolution of Cesarean section has been dependent upon the progress of aseptic surgical technic and anaesthesia.

In the beginning, Cesarean section was employed as a last resort to save the child of a dying mother, so that the maternal mortality at that time was necessarily close to 100 per

*Read before the Seaboard Medical Association of Virginia and North Carolina, at Elizabeth City, N. C., December 2-4, 1930.

cent. Statistics, of course, are not always reliable in detail, because they embrace the work of many different men and institutions, and are collected from all parts of the world, yet they undoubtedly give us a good cross section estimate.

It is generally conceded that the mortality from Cesarean is still too high. One of our best maternity hospitals, headed by a world famous obstetrician, reports a maternal mortality of 1.26 per cent in a series of 874 Cesareans, while a survery covering the work of several hospitals in one of our southern cities reveals a mortality of 30 per cent. C. Jeff Miller recently advanced the opinion that mortality incident to Cesarean section over the entire United States, would average from 10 per cent to 12 per cent. The high mortality rate cannot be charged to surgical technic, as such, but to the ill-advised use of a good operation in the face of contra-indications.

In the evolution of Cesarean section, the classical method came to be the one of choice, and for many years has been employed quite successfully in many cases. Its usefulness is undoubtedly limited to the elective or clean case. The high mortality has usually been the result of its misapplication. The Porro operation was devised and is still widely employed in certain frankly infected cases, and for certain other indications, which make any form of Cesarean hazardous. Between the two extremes just mentioned, there is the necessity for an operation which may be used in certain border-line cases, for instance, those in which the membranes have been ruptured for several days, vaginal examinations have been done, and labor has been prolonged.

With the afore-mentioned conditions in mind, even before the advent of aseptic surgery, some operators attempted an operation in the lower uterine segment, but this was discarded, only to be revived by Frank in 1906. Since the time of Frank, about twenty lower segment operations have been devised, and several have proven satisfactory. The longitudinal incision has been used and become popular, especially as modified by DeLee, Beck and others. These operations were devised with the idea of confining the operation to the non-contractile lower uterine segment, leaving the upper abdomen undisturbed, and the uterine wound covered by peritoneum.

Statistics generally indicate a definitely lower mortality where the lower segment operation has been employed. Greenhill recently reported 874 Cesareans done at the Chicago Lying-In Hospital, with a mortality of 1.26 per cent; 147 of his cases were classical, and carried a mortality of 4.76 per cent. In Germany, Gausman, and Anman, in a recent analysis of Cesarean sections, reported 3,554 low sections, with a mortality of 3.7 per cent, as compared to 438 classical, 308 extraperitoneal, and 120 Porro sections, with a mortality of 6 per cent each. This combined the work of 384 different operators. E. M. Hawks, from New York Nursery and Child's Hospital, recently reported 582 cases, done by eighty-three operators, and stated that the classical operation is reserved for the ideal or elective section, or one requiring unusual speed. For the questionable case he employs the lower segment; or else the extraperitoneal Latzsko method. At the New York Lying-In Hospital, Dr. Steele reports that the majority of members of the staff prefer the lower segment operation.

The occurrence of rupture in subsequent pregnancies after the lower segment operation has been much reduced, in fact, Wetterwald reported only ten instances in 3,600 cases, or .28 per cent, after the low operation. Beck recently referred to a survey made by Holland in which he investigated the history of 1,103 cases, and found that of 448 subsequent pregnancies that went to term, eighteen, or 4 per cent, suffered from rupture of the uterine scar. In view of the fact that these are not recent cases, it is assumed that few if any lower segment operations are included. It has been quite definitely established that most instances of rupture have occurred where the uterine incision was extended into the contractile portion of the uterus, and had left a weakened scar.

Recognizing the advantages of the lower segment operation, and the disadvantages of an incision extending, as was sometimes necessary, into the body of the uterus, J. Munro Kerr, of Scotland, about five years ago advanced the idea of confining the incision wholly to the lower uterine segment by means of a transverse incision. This operation has gained popularity, and has been, with modifications, extensively employed by Phaneuf, Irving, Cosgrove, Averett, Jullien and others. It is generally conceded by these men that the operation is technically easier to perform than

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the longitudinal, and is more nearly in accord with the principles of physiology. Dr. S. A. Cosgrove, of Jersey City, reports that over a period of twenty months he has performed thirty-seven operations by this method, on private cases, and his only death was that of a woman who was dying of cavernous sinus thrombosis, and the Cesarean was performed to save her viable full term child. He states that from his personal experience, "the transverse type operation is preferable to the longitudinal, because only by it is one able to confine the incision in the majority of cases wholly to the lower uterine segment. There was little more hemorrhage than usual from venous varices in three cases, but this was easily controlled; in no case was the ureter or uterine artery injured." He further states that while he favors the lower segment operation, and especially the transverse type, still he considers that one type of intra-, or transperitoneal section is relatively no safer than another in frankly infected cases, and that the lower segment operation should not permit of much relaxation in our concept of the contraindications to abdominal delivery.

I became interested in the operation while resident obstetrician on the service of Dr. Cosgrove, at Jersey City Hospital. It has been my experience that the low transverse incision can be used with ease in any case beyond the seventh month of gestation, unless there is need for unusual rapidity in completing the operation. My operating time has varied from thirty-three to sixty-five minutes as compared to twenty to thirty minutes in the classical method.

The anaesthetic may be of the operator's choice, but spinal anaesthesia gives far better relaxation of the abdomen, and such marked contraction of the intestines that the whole procedure is much facilitated.

A low mid-line incision extending at least six inches above the symphysis is made. A point is then selected about one inch above the reflection of the vesical peritoneum. The peritoneum is incised transversely, the upper flap retracted for an inch, and the lower with the bladder well separated down to the vagina or at least for two inches. A Doyen retractor is placed to hold the bladder, and the uterus is then gently incised transversely, beginning in the mid-line as low as possible, and extending the tips of the incision upward. After the first niche through the uterus, I employ bandage scissors to extend the incision laterally. If the membranes are unruptured, often the head with the unruptured sac may be delivered. Immediately after the child is delivered, each angle of the wound is caught with a vulsellum forceps and a No. 2 chromic catgut suture introduced well beyond the extremity of the wound for traction and hemostasis. The placenta is now expressed, and if much bleeding ensues, a pack may be introduced to control it, or, if excessive, pituitrin is injected into the uterine body. The sutures are then placed in two rows of locked No. 2 chromic catgut, the first extending to or through the endometrium and most of the muscle, and the latter closing over the remaining muscle and fascia. The upper flap of peritoneum is then brought over the incision and tacked by a few interrupted No. 0 plain catgut sutures. The lower flap is drawn at least an inch above the margin of the upper and likewise fixed. This completes the operation insofar as the uterus is concerned, and leaves no raw surface and only three plain catgut sutures which may come in contact with the abdominal viscera. The abdomen is closed in a routine manner. The post-operative care is that usually employed in other operative cases.

The foregoing technic is indicated in cases which are considered out of the limits of safety of the classical operation,—for example, where labor has been prolonged, membranes ruptured before or soon after the onset of labor, many or questionable vaginal examinations, or in some cases attempted delivery. With a viable child I consider it far safer than a high forceps, which unquestionably threatens the life of both mother and child. It is generally believed that within twenty-four hours after operation the peritoneum is so well adhered that it offers a very strong barrier to the escape of any material, either blood or pus, into the peritoneal cavity; this is further strengthened by the double flap. Further it is safer than the classical in that the sutures are undisturbed by the normal postpartum uterine contractions, and for the same reason the scar is believed to be stronger and less apt to rupture in a subsequent pregnancy. The convalescence of these cases is smoother than the high incision, and the incidence of gas and distention is almost neglible. Several contra-indications have been offered, namely,

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low implantation of the placenta or abruptio placentae. The first in my experience has made no particular difference, and the latter, while I have not encountered it, would be decided entirely by the patient's condition, as related to the element of time. Certain writers have opposed this method on the grounds that the greater vessels are endangered. This is prevented by directing the incision upward and avoiding them. If they are cut they can be easily ligated. Others have mentioned the danger of sinus hemorrhage. My experience has been that hemorrhage is far less frequent in this type, as a rule; and in the exceptional cases it is not difficult to control in the usual manner, i. e, by massage, packing, pituitrin, or sutures, as the condition may demand.

In some instances where there is troublesome bleeding from the placental site, a pack may be left in until the following day. This controls bleeding for the time being, and, further, stimulates the uterus to remain contracted. According to some obstetricians who have employed the transverse incision, much time is saved by allowing the placenta to remain in place, and be expressed into the vagina after the uterus is closed. I have seen no necessity for this, but I have observed that there is a tendency for the uterus to invert if too much traction is made in separating the placenta. My series of fifteen cases represents a variety of conditions to which this technic is applicable.

Case Reports

Age: Average 24.6, youngest 18, oldest 34.

Parity: Seven were primipara.

Five were para I.

Two were para II.

One was para VII.

Color: Eleven were white; four colored.

Previous Labor: Five had had Cesareans, four classical, and one lower segment operation.

Two had had a difficult forceps delivery.

One had had two normal deliveries.

Labor: Two were done before onset of labor. Remainder averaged 14.6 hours; the longest, 59 hours.

Membranes: Intact in ten cases; ruptured in five.

Vaginal Examinations: One case two examinations.

Diagnosis: Generally contracted pelvis five.

Relative disproportion three.

Non-engagement with tetany of uterus and ascending contraction ring two.

Chronic interstitial nephritis with hypertension and retinal changes, one.

Chronic interstitial nephritis, previous Cesarean, one.

Previous Cesarean three.

Anaesthetic: Spinal ten; ether four; spinal and ether, one.

Puerperium: Uncomplicated twelve.

Pyelitis 6th day, one.

Temperature 103 on 3rd day, subsiding with passage of blood clot, two.

Hospital Days: Shortest, ten days; longest eighteen days; average, fourteen days.

Mortality: Maternal, none; infant, one; stillborn, one.

One baby, that of a nephritic mother, died eighteen hours after birth.

One baby, that of a nephritic mother, was dead at birth, although the heart sounds were audible a short time before. The patient whose baby died had had a previous classical Cesarean; at operation the old scar was found to be ruptured,* though there had been no symptoms suggesting it.

Summary

1. Statistics indicate that the low Cesarean is safer in questionable cases, hence safer in elective cases.

2. The mortality of Cesarean section is still much too high.

3. Indications for Cesarean section should not be broadened until there is a more universal understanding of its limitations.

4. The transverse incision makes the operation technically easier.

5. It always limits the incision to the non-contractile portion, either isthmus or cervix, of the uterus, and makes rupture less likely.

6. By lessening trauma to the abdominal viscera, and by peritonealization of the incision, it offers less opportunity for post-operative ileus, adhesion, infection, etc.

7. The accompanying case reports illustrate the wide applications of this technic.

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AN UNUSUAL IF NOT A UNIQUE OPERATION UPON THE GALL-BLADDER.*

By W. LOWNDES PEPLE, M. D., Richmond, Va.

The patient, Mary C., is a white female, unmarried, about sixty-two years of age, five feet six inches tall, weighing about 100 pounds. Her family history is negative, except that one sister died of cancer. Her past history is negative for typhoid; and, except for the diseases of childhood, she has never been in bed a day or been attended by a doctor until the present trouble began. Her menstrual history was perfectly normal and she passed the menopause about ten years ago.

Her present trouble began about twenty-five years ago when she suffered attacks of severe pain all over the upper right quadrant of the abdomen followed by soreness and tenderness. At this time there was no jaundice and very little gaseous indigestion. Several times the pain was severe enough to require morphine hypodermically. These attacks occurred off and on at irregular intervals for two years. She then began taking olive oil daily. This seemed to help her as she had no further trouble until five years ago, when she had a recurrence of the same attacks though milder in character and the pain not of sufficient severity to require the services of a doctor. These attacks again lasted off and on for about two years and again there was no jaundice. Two years ago she had a rather severe attack of acute pain in the upper right abdomen associated with fever, nausea and vomiting, and followed by severe local tenderness below the liver. The pain was so severe that it required morphine for relief. She remained in bed for a week or two during which time her pulse and heart were very weak. Again there was no jaundice accompanying the condition. She has had slight attacks since then, but they have given very little trouble until a very severe attack on September, 1930, just four months prior to admission.

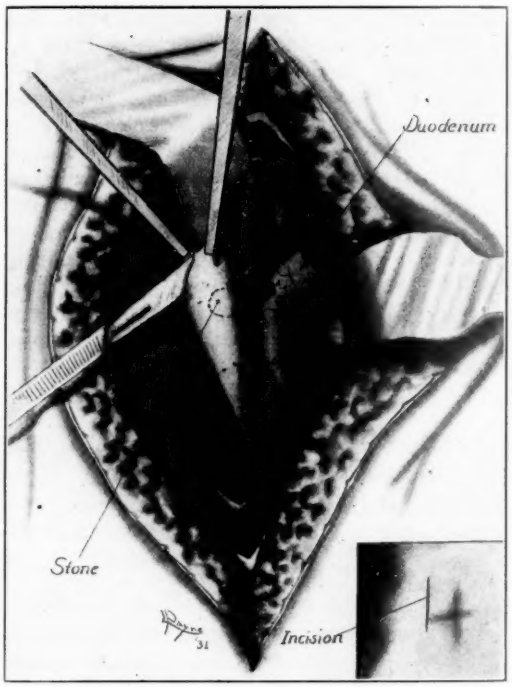

Fig. 1.—Showing gall-bladder adherent to duodenum with stone opposite adhesion.

At this time she first noticed she was slightly jaundiced and felt tired and weak upon exertion, her appetite was very poor and she suffered from headaches. She was also nauseated, with occasional vomiting spells. There was slight pain and soreness in the upper right quadrant of the abdomen, but the attacks were

*Exhibited before the Surgical Section of the Tri-State Medical Society, February 16, 1931.

never severe enough to require morphine for relief. She was given a dose of calomel after which she felt better and the jaundice cleared up a little. On November, 1930, about two months prior to admission, the jaundice began to deepen and she felt so badly she had to take to her bed. She had slight pain and soreness in the upper right abdomen with fever, chills and night sweats. Her appetite continued very poor and nausea and vomiting were very troublesome.

She was admitted to St. Luke's Hospital, January 15, 1931, having been in bed for almost two months and getting gradually weaker and losing weight. The jaundice is now pronounced and she is of a deep yellowish green color. Her stools are almost white and seem to contain no bile at all. Her temperature is 99°, pulse 80, and respiration 18. She looks weak and undernourished. The sclera is a deep yellow and the mucous membrane of the mouth has a yellowish tinge. Examination of her chest is negative. Her heart shows no gross abnormality. Blood pressure is 125/80, and arteries seem somewhat thickened. On examining the abdomen there is definite tenderness and slight rigidity in the right quadrant and mid-epigastrium. The smooth liver edge is about three fingers' breadth below the costal margin. No masses are felt and the kidneys are not palpable. Her knee jerks and reflexes of elbows are normally active and equal. There is no edema about the extremities.

Examination of her blood shows 3,710,000 red cells with 61 per cent hemoglobin; 9,700 leucocytes with 83 per cent polynuclears. The blood Wassermann is negative. The non-protein nitrogen is 36 milligrams per 100 c.c. Sugar is 150 milligrams per 100 c.c. Bile index 200. The coagulation time is fourteen minutes. The urine shows abundant albumin, abundant bile, a few leucocytes and coarsely granular casts. The stools are putty colored, and show no ova. The guaiac test reacts faintly for blood. A flat X-ray film of the abdomen shows no opaque gall-stones but a shadow which resembles the gall-bladder. Dr. Tabb's note here is: "The visualizing of the gall-bladder on a flat film is indicative of a thickened pathological gall-bladder." X-ray examination of the chest is negative for tuberculosis or evidence of fluid, pleural thickening or malignancy.

The clinical picture presented with the slow onset of jaundice following gall-stone attacks over a period of twenty-five years would certainly suggest malignancy. In spite of the fact that she had moderate fever and moderate leucocytosis with a high polynuclear count, it was thought that she probably had cancer either of the liver or bile ducts. However, it was unusual for a cancer large enough to produce jaundice not to be palpable in so thin a woman after five months. As the condition was growing steadily worse, an exploratory operation was decided on with a view to diverting the bile into the intestinal tract and at least relieving her of her jaundice.

On January 26th, under light general anesthesia, a right upper rectus incision was made revealing a small contracted gall-bladder buried in adhesions with only its dome showing. Many adhesions were separated until the common duct could be palpated. This was as large as one's index finger and of firm consistency like a mass of inflammatory tissue. It did not have the feel of a string of beads as though stones were lying in the lumen. The head of the pancreas was large and somewhat hard. There was a stone about one-eighth inch in diameter which was tightly imbedded in the gall-bladder in its upper third, and opposite to this point was an area of dense adhesions to the duodenum about three-quarters inch in length and one-half to three-quarters inch in breadth. Evidently, nature was trying to effect an artificial opening into the duodenum at this point. The gall-bladder in the beginning was noted as being too small to fit the half of a Murphy button and too much thickened to lend itself to proper suturing. The fundus of the gall-bladder was opened with a knife and the gall-stone removed with forceps. The knife was then inserted through the wound into the gall-bladder; and, as the assistant spread out the duodenum, a stab wound was made from the inside of the gall-bladder through the area of adhesions into the duodenum. A curved forcep was then passed into the duodenum and the fistula widened. The fundus of the gall-bladder was then sewed up and covered over with omentum. In this way I completed a cholecystenterostomy which nature was endeavoring to perform. There was little bile in the gall-bladder but I demonstrated its patency down to the common duct.

The abdominal wound was closed without drainage, and the patient made a rapid and

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uneventful recovery. The time of operation, twenty minutes, was so short and the trauma so slight that she had little or no post-operative discomfort. The nausea stopped at once and bile appeared in the stools in a few days. When she left the hospital on February 24th her jaundice had almost disappeared and she was rapidly gaining in weight and strength.

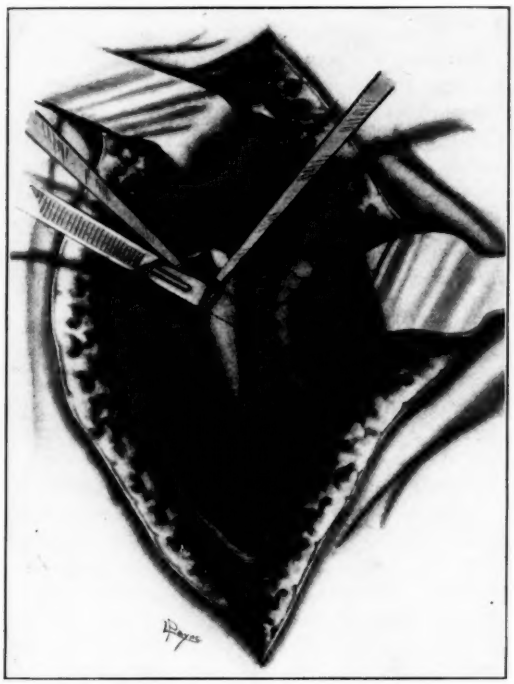

Fig. 2.—Gall-bladder opened near its summit and scalpel introduced through the incision making the opening into the duodenum through the area of adhesions.

I am inclined to think the case is one of intractable jaundice due to stones in the common duct, as no evidence of a cancerous growth could be found at operation. Should symptoms arise from an infected common duct or should the pain return, one could go in again and remove the stones or even the common duct itself with impunity.

I report this case somewhat in detail, not only because the operation was new to me but because of its simplicity in relieving this feeble, jaundiced old woman of a well nigh fatal illness. Should anyone setting out to do an anastomosis of the gall-bladder to the bowel encounter so fortuitous a patch of adhesions, I would remind him of the happy outcome of this case lest he impetuously separate them without recognizing their infinite value.

SOME FUNDAMENTALS IN THE EXTRACTION OF TEETH.*

By HARRY BEAR, D. D. S., F. A. C. D., Richmond, Va.
Dean, and Professor of Exodontia, Medical College of Virginia, School of Dentistry.

The celebrated Greek physician, Aesculapius, who lived in the twelfth century, B. C., is referred to as the God of Medicine. History records the tradition that dental surgery also had its origin with Aesculapius. We later learn from Hippocrates (460 B. C.) that "In cases of toothache, if the tooth is decayed and loose it must be extracted, if it is neither decayed nor loose, but still painful, it is necessary to desiccate it by cauterizing."[1] We understand from this that only loose teeth were removed and that Hippocrates considered such a procedure a simple one, for in one of his books he said: "These are the instruments necessary to the doctor's operating room and in the handling of which the disciple should be exercised; as to the pincus for pulling out teeth, anyone can handle them, because evidently the manner in which they are to be used is simple."[2]

Fig. 1.—Completely impacted mandibular third molar.

Through ancient and medieval history we may find many similar references. We also learn of peculiar methods by which teeth may be made to fall out. John Gaddesden, an English doctor of the fourteenth century, wrote that a tooth would fall out if anointed with the fat of a green frog.[3] He also added that "The brain of a partridge applied to a carious tooth makes it fall in pieces."[4]

This evolution in dentistry has continued to such a point that the practice of dentistry is subdivided into numerous specialties. The practice of exodontia is one which commands the attention of every general practitioner. The extraction of teeth is a surgical procedure,

*Read at meeting of Fourth District Dental Society of North Carolina, Raleigh, N. C., November 25, 1930.

and one which is performed, perhaps, more frequently than any other surgical operation. Because of its frequency and daily occurrence, its importance is sometimes minimized.

There are many phases of exodontia which might be considered but it is the purpose of this paper to discuss briefly some of the problems which we commonly encounter in a routine practice. Dr. Chapin A. Harris in his book on "The Principles and Practice of Dental Surgery," written in 1866, said "There are few operations in surgery that excite strange feelings of dread, and to which most persons submit with more reluctance, than the extraction of a tooth, . . . But when performed by a skillful hand and with a suitable instrument, the operation is always safe, and in a large majority of the cases may be effected with ease."[5]

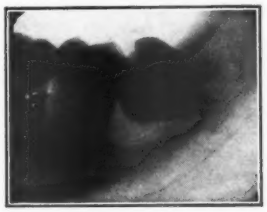

Fig. 2.—Impacted mandibular third molar. Area of structural change between the second and third molars indicative of pathology.

Diagnosis

It is unnecessary to discuss here the indications and contraindications for extractions. These facts are fairly well established and we all have certain convictions. It is sufficient to state that it is important that a complete diagnosis be made before proceeding with any operation. A careful clinical study of the patient should be made and in most cases a thorough X-ray examination should supplement the clinical findings. In view of the many anomalies commonly seen and because of the variation in teeth and supporting structures, a complete X-ray study becomes even more imperative.

Preoperative Care

There are many cases which are simple and require little preparation for a successful operation and satisfactory prognosis. Nevertheless, the longer one is engaged in this field the more concerned he is about the possible outcome because of the many complications which sometimes arise. Every case must be considered in the light of this knowledge and viewed with caution and much care. A complete diagnosis must include a satisfactory study of the shape and size of the tooth or teeth in question and the adjacent teeth and supporting structures. All removable appliances, etc., must be taken from the mouth. Calculus and other debris in the field of operation should be removed. Because the mouth cannot be rendered entirely aseptic does not preclude the necessity of a general cleansing to enhance the chances of sterilization.

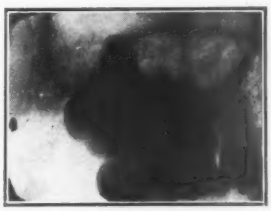

Fig. 3.—Impacted maxillary third molar.

The common acute abscess is a condition frequently encountered in a routine practice. Acute abscesses may be the result of a variety of causes. In some cases, particularly where the general health of the patient is also involved, remedial measures may be resorted to rather than extraction. In routine cases, however, extraction is not only immediately indicated, but imperative in order to provide free drainage and relief from pain. Curettement in these cases is contraindicated.

Another condition frequently presented is infections associated with erupting and impacted third molars. It is preferable to treat these infected areas before operating, for better results are obtained if acute symptoms are allayed. The same precaution should be exercised in cases of Vincent's infection.

Operative Procedures

It is needless to remind you of the necessity for having all the armamentarium sterile and, as I have indicated above, the field of operation as clean as possible. The instruments of choice should be those which the operator has found to be most efficient in his own experiences as various methods are used by different operators to obtain the same results. One important factor to be observed is that there should be as little trauma as possible and that the utmost care be exercised in handling the supporting and surrounding tissues.

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There are cases in which it is necessary to remove considerable osseous structure to permit a satisfactory delivery of the tooth or teeth. It is also important to trim the bony edges and smooth the alveolus and this must be done with care and with as little interference as possible with the physiologic process.

In our present-day practice we see many more ill patients than formerly. Patients are referred to the dentist for the removal of teeth which may be a possible focus of infection. It

Fig. 4.—Roentgenogram shows completely impacted right and left maxillary cuspid teeth.

is important in these cases to understand from the physician the extent of surgical interference to which the patient may be subjected. There are some acute medical cases in which it would be very undesirable to institute any surgical dental procedures. The cooperation of the medical attendant is imperative as the patient's health must be safeguarded.

Postoperative Treatment

Postoperative care may be divided into two main divisions; local and general.[6] Local postoperative treatment of mouth wounds should consist of simple non-traumatizing procedures. Advise the patient not to wash or rinse the mouth for at least the first twelve hours. This may be more indelibly impressed immediately after the operation has been completed by not permitting the patient to wash his mouth while in the office. Explain to him that the less the wound is disturbed by too vigorous washing, which often causes the loss of the blood-clot, the less bleeding there will be, and therefore the quicker and better the recovery. When excessive saliva apparently interferes with healing, atropin may be advisedly used to advantage. As a rule, the external application of ice compresses is ordered not only for the relief of pain but also because the cold tends to lessen edema and allays the inflammation, thereby reducing the heat necessary for the proliferation of bacteria. There should be no further local attention to the wound itself after the operation has been completed, unless this is warranted by conditions which may arise.

Under general care, patients should be advised to rest the parts operated on as far as practicable, while rest of the patient is likewise conducive to hastening recovery. Laxatives may be prescribed in order to facilitate proper elimination. A light diet, with more than the normal amount of fluid intake, is advised. For the relief of pain, sedatives are prescribed. Milder remedies are, of course, first used; if these do not suffice, narcotics may be necessary.

Regardless of the simplicity or gravity of the operation, the patient should be seen on the first, second or third day, this depending on the nature of the case, if not for treatment, at least for observation. If the wound looks satisfactory, nothing is done to disturb the healing process. The practice of continually disturbing a wound with instrumentation or with strong drugs cannot be too severely condemned.

Every case should receive the same attention in postoperative care as in the performance of the original operation itself,—care which is not to be relaxed until the operator is satisfied and the patient discharged.

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410 *Professional Building.*

RETROGRADE INTUSSUSCEPTION.*

By HERBERT H. SCHOENFELD, M. D., F. A. C. S.,
Washington, D. C.

Intussusception is probably the most common of the acute, obstructive conditions in children. It occurs only rarely in adults and is most frequently seen in infants. The condition gives a high mortality and requires prompt recognition and treatment.

The condition consists of an invagination of one segment of the intestine into another, most

*Read before The George M. Kober Medical Society of Washington, November 10, 1930.

commonly occurring in a descending fashion. The so-called ascending intussusception is extremely rare, being only briefly mentioned in Kelly's "Surgical Diseases of Children," as well as in Holt's "Diseases of Children." In Kelly's "Surgical Diseases of Children," in a series of 183 cases of intussusception, no ascending or retrograde intussusception was reported, while in Holt's series of 162 cases, no ascending cases are reported either.

The condition may involve only the small intestine or large intestine, or may arise in the small and large intestine together. The latter type is the more frequent, the site of the invagination most frequently being at the ileocecal junction. Only very rarely are multiple intussusceptions reported. By way of parenthesis, it should be stated that intussusceptions occur occasionally during the state of dissolution, at or near death, and these are occasionally found at autopsies. These intussusceptions, occurring in the moribund state, are naturally of no clinical importance.

Animal experimentation has demonstrated the mechanics of intussusception. Intussusception can be readily produced in dogs by stimulation of the intestines with an electric current. Such stimulation causes a contraction of the irritated segment, which becomes white and hard in its contraction and the segment below it swallows or creeps up upon the narrowed contracted area. With the invagination, the mesentery of the gut is to a greater or lesser degree constricted and the blood supply interfered with, so that the gradual oedema of the invaginated portion occurs and the peritoneal surfaces, which are opposed within the intussusception, become inflamed and glued together. The oedema gradually produces a complete obstruction of intestinal flow and gangrene of the intussusceptum may occur.

Among the etiological factors of intussusception, we find the condition occurring much more frequently in males than in females, in a ratio of about two to one. It occasionally follows enterocolitis, and is not infrequently seen during the summer months in association with the infectious diarrhoeas. New growths, especially polyps of the intestines, are occasionally seen as causative factors. Meckel's diverticulum and other anomalies of the gut may also occasionally be factors. Appendiceal pathology and foreign bodies are also considered as causes. I have seen a polyp in the ileum and Meckel's diverticulum, each present in one instance, while the remainder, of about twenty cases which I have seen, have had no evident factor of the types mentioned.

Intussusception may be acute, subacute, or chronic in type, the arbitrary division of these cases being dependent upon the duration of the picture. Very occasionally, recurrent intussusception occurs, which spontaneously rectifies itself and frequently re-occurs.

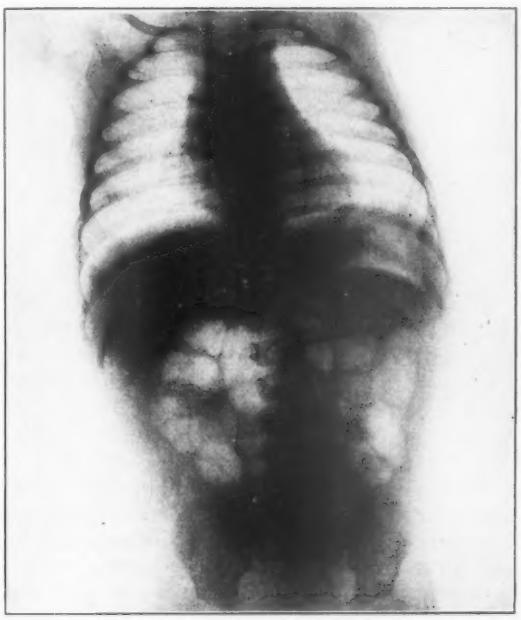

Fig. 1.—Shows accumulation of gas in bowel, proximal to obstruction. Note absence of gas in pelvic colon.

The acute intussusception presents a clinical picture which is striking and on which a diagnosis can frequently be made on the history alone. The symptoms are apparently acute. There is sudden onset of pain which is paroxysmal in character, occasionally awakening an infant from a sound sleep, allowing the child within a few minutes to fall asleep again, and to be suddenly reawakened, the child crying and being extremely restless during the paroxysms. Associated with the paroxysms, bowel movements occur, which at first have a definite fecal contest, later stools being of blood, serum, and mucus. Gas is frequently passed for several hours more than fecal content. Vomiting may or may not occur until relatively late in the course of the disease. Such vomitus at first may consist only of stom-

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ach contents and mucus. Later, as with other obstructions, it may be blood-stained and fecal in character.

The diagnosis is usually confirmed by the ready palpation of a tumor mass, which is more or less sausage-shaped and boggy in consistency. It may be felt in any part of the abdomen. Digital examination of the rectum is a very important mode of investigation by which the intussusception can be felt against the tip of the examining finger, occasionally, except for its relative softness, giving the exact sensation of the os uteri.

In recent years I have examined a number of these cases fluoroscopically with barium enemata. It is stated that intussusception may occasionally be reduced with enemata. I, personally, have never seen this accomplished, but, granting that it is possible to accomplish, I should prefer to be sure of relief under my sight. Certainly such visual examination is of definite diagnostic use.

The X-ray plates show the barium enema definitely stopped at the sigmoid, and great pressure of the enema did not elevate the point of obstruction in this case. (Another plate is of interest in showing the large amount of gas trapped in the large intestine, particularly in the cecal and ascending colon areas.)

Operation in these cases should be performed promptly even though the tumor of the intussusception may occasionally be so small that it cannot be felt or distention may be so great as to preclude its finding when present.

The history and symptoms make the diagnosis, and even when the condition is apparently relieved by enemata, laparotomy should be performed to assure complete relief, and to remove any etiological factor that is amenable to surgical treatment.

The case that I wish to report is that of a colored female child, four months of age, who was admitted to the Children's Hospital at about 7:15 A. M., on October 25, 1930. The mother gave a history of the child having had a slight cough and some nasal discharge for about two weeks. The evening before admission, on October 24th, at about nine o'clock, the child began to vomit. The vomiting continued throughout the night about every hour, and on the morning of admission the frequency increased to about every half hour. The vomitus at first was of stomach contents with milk, and later became biliary in type. The child's bowels moved well at about eight o'clock on the evening of the 24th, and beginning about five A. M, bloody stools were passed at intervals up until the time of admission.

Examination on admission demonstrated some evidence of pathology in the base of the left lung where the breath sounds were altered. There was also some injection of the ear-drums and congestion of the pharynx, and on abdominal examination a definite mass was felt running longitudinally on the left of the midline of the abdomen, from just above the umbilicus to the pubis.

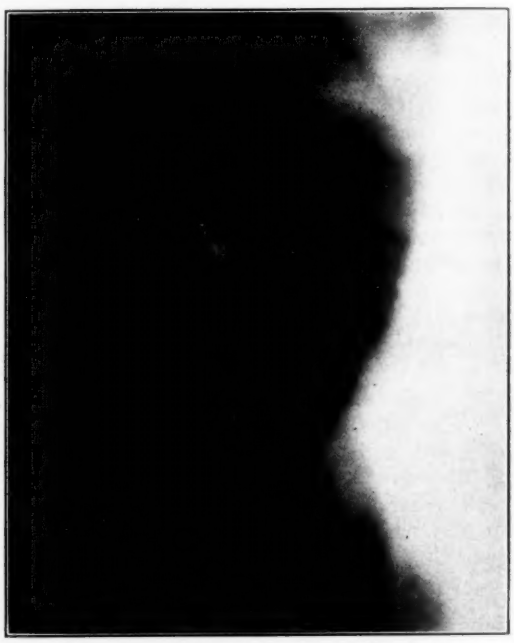

Fig. 2.—Shows bowel, distal to obstruction, filled with barium enema.

The child was removed to the X-ray department, where a barium enema was given after the flat plate had already been taken. This enema went up as far as the junction of the sigmoid with the descending colon and could not be pushed further. The tumor mass could be felt above the obstructed point.

Laparotomy was immediately performed, a right rectus incision being made, the mass being delivered and found to be an intussusception. The interesting part of the finding was that the intussusception consisted of an invagination of the sigmoid up into the descending colon to the level of the splenic flexure. The intussusception was easily reduced, the ab-

domen being closed in layers. The actual operative procedure consumed about twenty-five minutes. Further exploration of the abdomen in this case was not made because of the risk involved in continued anesthesia and manipulation.

Only a few hours later the child was seen by Dr. C. A. Schutz, the attending pediatrician, who found slight increase of the voice sounds over the left base posteriorly; the heart in good condition; a rhino-pharyngitis was present; both ear-drums showed pathology which required myringotomy. The dietary control of this patient was also outlined by the pediatrician and salt solution was given subcutaneously at intervals.

The child apparently did well for about forty-eight hours, though there was sharp afternoon rise in temperature to about 104°. On October 27th, the child appeared to be more prostrated and the heart rate became very rapid though the sounds were of good quality. The bilateral otitis had opparently subsided, but the pulmonary findings were increased in amount and distribution. The respiration was of the grunting type and dilatation of the nares was present. The infant died just before midnight on October 27th with a hyperpyrexia.

An autopsy was performed at the hospital by Dr. J. W. Lindsay on the following morning. The positive findings of this well-developed, well-nourished baby, whose weight was eleven pounds, twelve ounces, were:

1. Pulmonary congestion with bronchopneumonia.
2. Oedema and congestion of the large intestine, particularly in the cecal area.
3. Post-operative incision of the abdominal wall, which was clean and of normal appearance.

The interesting point in this case is that the condition was one of an ascending intussusception, which is very rarely seen.

1801 *Eye Street, Northwest.*

A DISCUSSION OF THE PREVENTION OF FOETAL AND MATERNAL MORTALITY.*

By HARRY HUDNALL WARE, JR., M. D., Richmond, Va.
From the Department of Obstetrics, Medical College of Virginia.

As in other departments of medicine, one's work in obstetrics is in the final analysis a question of mortality and morbidity. We are, therefore, vitally concerned with those conditions which are essentially responsible for these sequelae.

S. Josephine Baker says that in the death registration area in the United States during the year 1921, more than 40 per cent of all maternal deaths were due to puerperal infection. Of the maternal deaths, 27 per cent were due to puerperal albuminuria and convulsions, and 10 per cent to instrumental delivery and surgical procedures, including Caesarean section. The remaining 23 per cent were due to the so-called accidents of pregnancy, including abortion, ectopic pregnancy, puerperal hemorrhage (placenta previa and abruptio placenta), embolus and phlebitis.

Mac Murchay states the maternal mortality in Canada for one year was six per thousand living birth, 1,532 deaths. Sepsis caused death in 418 cases, hemorrhage in 357 cases, and toxemia of pregnancy in 344 cases.

According to Litzenburg, the two principal causes of maternal mortality are sepsis and eclampsia. In 1925 there were in this country 17,190 puerperal deaths, of which 11,180 were due to sepsis and toxemia.

The same author (Litzenburg) says that prematurity increased 10 per cent from 1915 to 1925, causing 53,800 foetal deaths in 1925. Litzenburg's figures also showed a great increase in baby deaths from birth injuries during the same period, namely, from 8,835 in 1915 to 11,652 in 1925, an increase of 14.8 per cent, which shows the effect of interference by induced labors, forceps, versions, and operative procedures.

The successful culmination of an obstetrical case will depend upon three main factors:

First.—Careful and persistent prenatal care.

Second.—Intelligent and skillful management during labor.

Third.—Conscientious postnatal treatment and follow-up.

PRENATAL CARE: One of the outstanding accomplishments here is the prevention of prematurity, still-births and deaths during the first weeks of life, emphasized by the figures of Litzenburg. Hearty cooperation between the physician and patient is essential. A complete examination and a well-kept record enables the physician to treat the case intelligently and inspires in the patient a greater confidence.

*Read by invitation before the Clinch Valley Medical Society, September 20, 1930.

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The importance of the history cannot be overstressed.

Infectious diseases often leave a patient with some permanent damage. A history of scarlet fever may mean a damaged kidney, or rheumatic fever a damaged heart. Mental diseases and tuberculosis demand careful study and frequently cause us to alter our treatment of specific cases.

The record of previous labors will sometimes give us information that will prevent the recurrence of a mistake made in a former delivery. The menstrual history is also important.

Physical examination, including pelvic examination and pelivimetry, a study of the height, and bony conformation of the patient, are necessary for us to estimate the risk of child-birth for a particular patient. Short, stout women frequently have prolonged labors and require operative interference. Patients with cardiac disease, and those with nephritis should have their labors abbreviated as much as is consistent with the welfare of both mother and baby. The second stage should be shortened when the surroundings, training, and equipment of the accoucher justify interference.

A certain percentage of these cases cannot stand the strain of even a short labor, and a Caesarean section under local or spinal anaesthesia before the onset of labor will save many lives in properly selected cases.

A definite percentage of the toxemias of pregnancy are secondary to focal infections in the teeth, tonsils, kidneys, and elsewhere in the body. The early removal of infected tonsils and teeth, and the treatment of infections in the mouth, throat, and other parts of the body will reduce the incidence of toxemias and secondary infections. All cavities in teeth that can be saved should be filled early in pregnancy.

Careful pelvimetry will enable the physician to classify his patients, and study more closely the border-line cases. Neglect in these cases accounts for much of the morbidity and mortality of obstetrics. Eliminating the patients with absolute contractions of the pelvis, because their treatment is simple, we must study carefully the border-line cases. Their final result depends on the type of patient, race, and physical condition, the size and position of the baby, the condition of the cervix and maternal soft parts, and the type of labor pains, as well as the bony pelvis.

During our routine pelvic examination of patients the speculum examination frequently reveals an eroded or diseased cervix which can be treated by local applications and cured or much improved before the onset of labor. Patients should be educated and encouraged to come to the physician as soon as pregnancy is suspected, and a careful and complete examination should be made at that time. During the first six months of pregnancy a patient should see her doctor at least once a month, during the next two months, at least every fourteen days, and during the last month, once each week. More frequent visits must be made in complicated cases. We make a second complete examination of our patients at the beginning of the eighth month, and re-check the measurements. No vaginal examinations are made after the eighth month. At each visit the blood pressure and weight are recorded. A specimen of urine is examined and a careful inquiry into her general condition is made. The diet should be regulated according to each patient's needs. Any tendency to constipation must be overcome. This can usually be accomplished by proper diet or the administration of mineral oil, one ounce daily.

What Prenatal Care Accomplishes: Toxemias of pregnancy can be greatly reduced. Better babies are developed by giving the mother a balanced diet and advising against excess in any item of food. The presentation and position of the baby can be determined and usually the size of the baby can be closely estimated.

Management During Labor: The function of the obstetrician is

First.—To deliver the woman of a healthy living child with the minimum of injury to her general condition and the least trauma to her generative organs.

Second.—To leave her in such physical condition that she may be an economic asset to her family and the community.

Preparation of the Patient for Labor: The obstetrician should note the progress of the labor by careful abdominal and rectal examinations. Vaginal examinations are seldom necessary and greatly increase the danger of infection of the genital tract. Rectal examinations enable the physician to note the dilatation of the cervix, the presence and amount

of forewater, and the level of the presenting part. The position and rate of the foetal heart should be watched closely, also the frequency and duration of the uterine contractions.

Preservation of the membranes during the first stage of labor reduces the trauma to the foetal head and enables the cervix to dilate normally, thus reducing the incidence of lacerations of the cervix and the danger of intracranial hemorrhage to the newborn.

Obstetrical patients should be kept as comfortable as is possible during labor. This includes a comfortable bed, and the avoidance of unnecessary exposure. The patient should have fluids freely and a soft or liquid diet depending on the estimated time before delivery.

Much progress has been made in the relief of pain for the woman in labor. Some physicians have probably relieved the suffering during labor at the expense of the mother's health in after years and at other times have sacrificed the baby. Many other physicians have neglected to give the expectant mothers even the slightest relief. The administration of the various drugs for the control of pain must be managed intelligently to obtain good results. We use morphine in doses of 1/6 or ¼ grain frequently when the patient is suffering with good contractions at two to three minute intervals and lasting forty to sixty seconds, with the cervix dilated two to three fingers. This will relieve the severity of the pain and seldom slows the labor. Depending upon the effect of the opiate, one to two hours after the administration of the hypodermic of morphine, rectal analgesia (The N. Y. Lying-In formula) is given the patient. This usually effects considerable relief until the head is almost ready to deliver. In the hospital a little nitrous oxide and oxygen anaesthesia should be used for the delivery of the baby. In the home, ether by the open drop method is the safest anaesthetic.

At the onset of labor pains, in cases of the border-line type, where the presenting part is floating, the adaptation of the head to the pelvis gives valuable information. When pressure is made on the fundus of the uterus or the baby's head, if the head can be pushed in the pelvis, the inlet is probably ample. If the vertex over-rides the symphysis, the disproportion is probably considerable, and delivery from below doubtful. This is of particular value in estimating what a patient can do with her first labor.

Second Stage: When the presenting part has passed through the cervix and internal rotation has taken place, delay on the distended and stretched soft structures produces fascial stretching and a resulting relaxation.

Progressive advance with mother and foetus in good condition should never be interfered with. Prolonged arrest produces retarded circulation to the tissues, over-stretching and relaxation, diminishes tissue resistance, and invites infection. Arrest should be relieved by appropriate and timely interference. Prolonged stretching of the perineal fascia, and muscles in excessive rigidity, causes edema and trauma, favors laceration, and results in poor healing and unfavorable surgical repair. Perineotomy in such cases of inelasticity of the soft structures is sound in surgical principle and gives admirable results when properly done.

Traumatic wounds everywhere heal with difficulty and are prone to infection; the perineum is no exception. One has only to practice perineotomy in well selected cases to be convinced of the end-results when correctly repaired.

Median and lateral incisions both have their advantages, and should be adopted according to the varying diameters of the pelvic outlet, the size of the baby's head, and the degree of rigidity of the pelvic muscles and fascia.

It has been shown that the instillation in the vagina during labor of a solution of mercurochrome 2 per cent with acetone and alcohol has reduced the maternal morbidity, and we now use one ounce of this solution routinely before delivery.

Because of the general scope of this paper and the limited time, I will not go into any detail concerning the technique of perineorrhaphies. We usually close the vaginal mucosa first, using number 1 chromic catgut. Next, we repair the muscle and fascia with interrupted sutures of number 1 chromic catgut, and, last, the skin of the perineum with silkworm, interrupted or subcuticular. Lead shot are mashed on the end of these sutures to prevent them from pricking the patient and to facilitate removal, which is usually done on the seventh day post-operative.

Postnatal Care: This begins immediately upon delivery of the baby. Control of bleed-

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ing is important because anemic patients recover slowly and are always more subject to infections.

Pituitrin, ½ to 1 c.c., may be given to stimulate contraction of the uterus. The fundus should be held, but sufficient time should be given for the formation of the retro-placental blood clot and separation of the placenta. Rough massaging of the uterus must be avoided. When the placenta has separated, the fundus is grasped and pushed backward to straighten out the utero-vaginal angle. Gentle pressure is now made on the fundus and the placenta expelled.

Many cases of post-partum hemorrhage can be controlled by placing the left hand on the anterior abdominal wall and making pressure just above the symphysis with the fingers, while the right hand grasps the uterus from above and brings it forward and against the fingers of the left hand. When the uterus remains flabby and continues to bleed, intra-uterine packing frequently saves life. The advisability of the packing depends upon the amount of blood lost by the patient and the surroundings the physician is working in.

Bleeding that occurs after firm contraction of the fundus demands inspection of the cervix. Lacerations of the cervix should be repaired immediately where assistance is available and surgical technique can be carried out. We usually use interrupted sutures of number 2 chromic catgut.

Lacerations of the perineum and vaginal sulci should be repaired immediately, as stated under episiotomes and perineorrhaphies.

Fluid extract of ergot, drams ½, three times daily for three to four days, will stimulate contraction of the uterus and favor involution. Gynergen has the same therapeutic effect. Nursing the infant also stimulates uterine contraction and involution. Involution may also be hastened by the application of an ice-cap to the lower abdomen. Intra-uterine douches or internal manipulation of any kind must be strictly avoided.

Immediate repair of lacerations of the cervix, vagina, and perineum and the stimulation of firm contraction of the uterus are important factors in keeping up resistance and preventing infection.

Resuscitation of the baby should never be rough. Hold the baby up by his feet, drain the mucus from his mouth, nose, and throat, and keep him warm.

We elevate the head of the bed eight inches immediately after delivery, and have the patient rest flat on her abdomen twice daily for one hour after the first day. This brings the uterus forward, increases the circulation, and facilitates drainage. After the tenth day the patient adopts the knee-chest posture for fifteen minutes twice daily. Other exercises should be given to increase the tone of the muscles of the anterior abdominal wall.

Engorged breasts are treated by a tight binder and ice-caps. Occasionally we use an electric pump or hand pump. The baby should not be taken off the breast unless the nipples are sore.

All patients should be examined four weeks post-partum. Erosions of the cervix should be treated with silver nitrate 10 per cent. Those that do not respond to this treatment can be cauterized in the office with an electric cautery.

Retroversions are frequent and can usually be corrected at the end of four weeks after delivery. The uterus should be kept in place by the introduction of a vaginal pessary, which can be removed after the patient has worn it two to six weeks. The after-care of obstetrical cases is of paramount importance, and no patient should be discharged until her condition is thoroughly satisfactory.

In closing, I would like to emphasize three points:

First.—Our medical schools must develop doctors who are better trained in practical obstetrics.

Second.—Our doctors must educate the patients and show them the value of prenatal and postnatal care.

Third.—We must avoid operative interference in obstetrical cases that are progressing normally, and not try to deliver our eclamptic cases too rapidly.

Stuart Circle Hospital.

MENINGITIS CAUSED BY BACTERIUM AEROGENES.

By FREDERICK W. SHAW, M. D., Richmond, Va.
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Meningitis due to members of the colon group is a very rare disease. Neal,[1] reviewing more than 1,500 cases of meningitis, found but seven due to members of this group, and an eighth due to several microorganisms, one of which belonged to the colon group. Of this

number two cases were due to bacterium aerogenes (aerobacter aerogenes): one reported by Beitzke[2] in 1904, and one by Kolle and Wassermann,[3] 1913.

In 1928, Deane and Shera[4] reported a case of meningitis due to bacterium lactis aerogenes (aerobacter aerogenes). The patient was a woman aged 71 years, who was admitted to the hospital on account of vomiting and pyrexia. A week previously she had had a rigor, with a temperature of 102° F. Since then she had been vomiting frequently. On admission her temperature was 101° F., pulse rate 132, and respiration 40. She seemed lethargic and very tired, and complained of persistent vomiting and feeling very weak. There was no abdominal pain, tenderness or rigidity, nor any palpable tumor. There were moist rales at the bases of both lungs. The next day she was in a state of low delirium, and on the following day at noon had a rigor (101° F.), became deeply comatose, and lay curled up on her side in bed with her head forward. Moist rales became more numerous over the chest, and blood stained pus began to flow from the nose. She died in the afternoon. At post-mortem, stained slide preparations from the meningeal pus showed many gram-negative encapsulated bacilli. This microorganism was classified by cultural methods as bacterium lactis aerogenes (A. aerogenes).

In 1929, the writer isolated bacterium aerogenes from the spinal fluid of the following case: A. C., age 3 years, female, colored, admitted to St. Philip Hospital, August 12, 1929.

The patient, having been playing in the yard, went into the house complaining that she was sleepy. She laid down and went to sleep. After sleeping for two or three hours, she awakened, very fretful and shaking as though with a chill. She appeared to be very nervous. On the night of August 10th, she had a high fever, vomited at intervals throughout the night and asked for water every few minutes. The next day (August 11th) she was very irrational, screamed with pain, had a rapid respiratory rate and an occasional cough. The patient slept at intervals during the night, but was restless most of the time and complained of pain in the neck and back. The fever appeared to rise during the night.

On admission, examination showed a very sick, irritable child, with congestion of the throat and a slight stiffness of the neck and spine. The lower extremities were not stiff, and Kernig's sign was negative. The abdomen was tender and somewhat rigid. The temperature was 103° F.

A spinal puncture was performed on the 13th. The spinal fluid was very cloudy. There were 1,300 cells present, of which 91 per cent were polymorphonuclear leucocytes and 9 per cent were lymphocytes. The specific gravity was 1.027. A heavy trace of globulin was present. There were 20 mgms. of dextrose. The mastic was 4-4-4-1-0. Stained slide preparations of the sediment showed a gram-negative, encapsulated bacillus. Examination of wet, unstained preparations of the sediment showed a non-motile organism.

On August 17th, the cell count was 3,600. On the 19th, the dextrose was 25 mgms., and on the 22nd the dextrose had fallen to 10 mgms. Spinal fluid removed on the 24th was very thick, with ropy pus.

The blood count on the 15th was hemoglobin 80 per cent, erythrocytes 4,100,000, leucocytes 11,200, of which 86 per cent were polynuclears and 14 per cent lymphocytes.

The urine was negative, except for a trace of albumin.

After admission the temperature dropped to 100° F., where it remained until death, which occurred on August 25th.

The gram-negative encapsulated bacillus was isolated from the spinal fluid on the 13th,

	Gram	Motility	Gelatin	Serum	Indol	V.-P.	Milk	Dextrose	Lactose	Mannite	Salicin	Saccharose	Maltose	Dulcite	Glycerol	Inositol	Adonitol
A. aerogenes (Deane and Shera)	o	o	o	o	o	+	AC	AG	AG	AG	AG	AG	AG	o	..	..	..
B. pneumoniae (5)	o	o	o	o	o	o	AC	AG	AG	AG	AG	AG	AG	AG	..	..	AG
A. aerogenes (5)	o	o	o	o	o	+	AC	AG	AG	AG	AG	AG	AG	o	..	AG	AG
A. aerogenes (This patient)	o	o	o	o	o	+	AC	AG	AG	AG	AG	AG	AG	o	AG	AG	AG
B. acidi lactici (5)	o	o	o	o	+	o	AC	AG	AG	AG	o	o	AG	o	..	o	AG

o = no reaction; AC = acid and coagulated; V.-P. = Voges-Proskauer; AG = acid and gas; + = positive.

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19th, 21st and 24th. With the exception of a contamination of the fluid on the 19th, this was the only organism present.

The bacillus grew on eosin-methylene blue with the pink, profuse, mucoid growth of B. aerogenes. The reactions in the various mediums are shown in the table.

Neal (1. c.) cites a few cases of meningitis due to Freidlander's bacillus (B. pneumoniae). It is quite possible that some of these may have been B. aerogenes, as opinions in the different geographical locations do not agree as to the identity of B. aerogenes and B. pneumoniae (Freidlander's).

TABLE

Showing cultural reactions of B. aerogenes and closely related bacteria.

B. aerogenes differs from B. acidi lactici in fermenting inosite, salicin and saccharose, and is V.-P. positive; it differs from B. pneumoniae in not fermenting dulcite and in being V.-P. positive.

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HYPERIDROSIS.

By J. B. H. WARING, M. D., Cincinnati, Ohio.

A professional colleague, who had been bobbyjonesing around quite extensively during the heated summer period, asked me informally to take a look at his feet. Excessive sweating of a perhaps highly acid sweat about the feet, with evaporation retarded by stockings and heavy leather golf shoes, resulted in an inflamed, eczema-like condition about the feet and especially on and between the toes; perhaps intertrigo would be more correct technically speaking. This was aggravated by several angry-looking pustules over dorsum of toes; in other words, the ever-present staphylococcus had taken advantage of favorable conditions to go into action on its own account. Take a diabetic, or a greatly debilitated person, and we had the ground work laid for an explosion of some violence. Careful cleansing, followed by soothing antiseptic lotions rapidly cleared up the condition in the instant case; but the incident emphasized the value of prophylactic care of the feet under all conditions.

Hyperidrosis is defined as excessive sweating, and may be general, as in advanced tuberculosis or other greatly debilitating diseases. Again it may be more of a local affection, most frequently observed in the hands, feet and axillae, and ascribed to some derangement of the sympathetic nervous system. Sometimes it is quite rebellious to treatment. Closely allied to hyperidrosis, and clinically in some ways of much more importance, is bromidrosis, defined as a functional disturbance characterized by the secretion of sweat of an offensive odor, the feet and axillae being most commonly observed.

Due to the extensive, high-pressured advertising of a household "remedy" which has been described as a witchhazelization of dilute alcohol, more or less, the condition known as halitosis is becoming known to young and old. A recent comic advertising cartoon depicts two tousled-headed youngsters locked in fierce combat, the casus belli being that one of the aforesaid young combatants had taunted the other, "Your daddy's got halitosis." There is no question but that modern, sixteen-cylinder advertising will move mountains of public inertia, and cause the reluctant public to indulge in a frantic scramble to be one of the steenth million purchasers of a jar of that omnipotent household remedy good in obstetrics and all the way down through the years until and perhaps senile dementia overtakes the new arrival, merely by rubbing on the afflicted portion. Rub the magic remedy on the lice-infested head of a baby chick and those lice will go right away from that place; common lard will cause the same migration with equal effectiveness, but the magic remedy costs more, is advertised more, and it is far better for the manufacturers financially that the public use as advertised. By the same token, the advertised remedy is best for halitosis; but we, as professional men, confronted with halitosis should first seek for the cause and try to remove that. It may be diseased tonsils; or decayed teeth or pyorrhoeic gums; or nasal sinus involvement; or digestive upset. I have known an obstinate halitosis to clear up like magic when pyorrhoea-surrounded teeth were extracted, and the same with tonsils, etc.

To return to our hyperidrosis and bromidrosis. Of especial importance in a social sense seems bromidrosis; often the sufferer is unaware of his trouble and, as with halitosis, his friends are hesitant to make it known to him or

her, as the case may be. One of the most brilliant medical students I have ever known was afflicted with this trouble to such an extent that his fellow students shunned him and tried as far as possible to be seated in lecture room away from him. This produced something of an anti-social reaction on part of the unfortunate student, and the condition may have been at bottom of the marked unpopularity of the student, perhaps totally unaware of what excited the attitude of his fellow students. Certainly, it seems to me this condition may have been the foundation which in one way or another led to the failure of this brilliant student to attain the later professional success of many of his fellow students, whose collegiate records were far inferior.

Faulty foot hygiene is undoubtedly at bottom of many cases of hyperidrosis and bromidrosis; and careful attention to this phase will undoubtedly eliminate many cases without further treatment.

As a routine, the feet should be carefully washed with warm water and unirritating toilet soap, with special attention to the toes, the nails of which should be kept carefully trimmed; corns and callous places watched, etc. After careful drying with a soft towel, the feet should be well powdered with a good grade of talcum powder, or with some one of the many excellent foot powders on the market. Fresh socks should be worn each day and, of course, proper fitting shoes used. In summer or in southern latitudes a sandal type of low shoe will be found helpful, with light thin socks. Routine foot care as above described can be used to advantage by everyone, and especially those inclined to excessive or bad-odored sweating about the feet.

Careful foot hygiene is especially desirable in the tropics, owing to favorable conditions otherwise for development of ringworm and a host of other tropical skin lessions.

Hardaway recommends the following as a very excellent foot dusting powder:

Rx. Pulv. acidi salicylici
Pulv. zinci carbonatis praecipitati
Pulv. magnesii ustae aa dr. IV
Pulv. amyli dr. XV
Pulv. talcis dr. XX
Sig: Dusting powder.

A powder for foot use in military service was composed of equal parts of boric acid, starch and talcum. Many excellent formulas have been devised.

A sore footed soldier is badly handicapped, and careful commanders were always very watchful that their men took proper care of the feet. During hikes in Philippine army service, marching was often mile after mile through mud and swamp, rice paddies, etc., and under such conditions it was often very difficult to keep the feet in good condition. On one well-remembered hike up into the mountains of Mindanao after marauding Moro outlaws, the march for most of the day was through swamp and lowland mud. Officers' bedding rolls were carried on the heads of strong bodied and stiff necked native Moro porters, or cargadores in Spanish. In packing the roll my surplus socks were omitted so, upon going into camp that night high up in a mountain valley alongside a dashing, bounding mountain stream, my socks were carefully laundered in the stream and draped upon a fallen tree trunk against resumption of the hike next morning. Next morning those socks had taken wing and were nowhere to be found; no one had seen them. It looked like an all-day hike in shoes without socks; I had visions of blistered feet, etc., when a fellow officer came forth with the loan of a surplus fresh pair. Overjoyed, I carefully talcum powdered feet, put on socks and shoes and was soon ready to go. Just about time the march was being resumed, the line of porters or cargadores wound across the campsite in single file, each carrying a head load of baggage. About midway of the column proudly stalked a cargadore decorated in shoeless olive drab army socks, while all his fellows strode along in customary barefoot. Anastacio, our trusty Filipino interpreter, was quickly brought into requisition and began to ply the proud Moro hombre with hows and whys and wheres as to that pair of olive drab socks. He had "just found them" was his sheepish alibi, and he was just as quickly bereft of his "found" socks, but by this time the soles had been worn and torn on the rocky ground, and visions of all sorts of Moro skin diseases terminated any idea of ever wearing "those" socks again; but to impress fellow Moro cargadores of thieving propensities they were burned in the camp fire before his eyes.

Whenever the question of hyperidrosis or bromidrosis or simple foot hygiene comes up,

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our mind's eye promptly reverts to that mountain stream scene in far-off Moro land with its proudly stepping sock-garbed cargadore, who is usually dressed for most informal business wear in the ubiquitous gee-string.

However, prophylaxis is the main therapeutic consideration with either of these annoying conditions; and if the individual will carefully attend to routine foot hygiene each morning, followed with plenty of talcum or foot powder, he will find that day in and day out over the years his "doggies" will be in good condition and ready to go whenever he is.

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7 East McMillan Street.

THE NEW ANAESTHESIAS.

By PHILIP JACOBSON, M. D., Petersburg, Va.

The reintroduction of spinal anaesthesia after the first wave of enthusiasm for its use had subsided, has served to focus the attention of the medical world upon anaesthesia in general, which, in turn, has been associated with the general acceptance for clinical trial of other new anaesthetics, without a careful inquiry and exact intimate information of their properties, pharmacology, and, if I may so use the phrase, surgical philosophy governing their use. Of these, the most important are the derivatives of barbital by the oral, intravenous or rectal route, the various local anaesthetics used intraspinously and the analgesias employed in obstetrics.

In recent months the literature has been flooded with articles describing the success or failure of the new methods. Whatever experience one may have had, there is no difficulty finding published reports of similar experiences which help determine the disuse or continued use of the method. Occasionally it is a matter of embarrassment to have to deviate from a course once so earnestly advocated, just as it is a source of felicitation to be able to be among the vanguard of the proponents of finally accepted measures. The spirit of improvement and progress occasionally promotes a radicalism which often results in a hindering conservatism. Any change, whether for good or evil, is usually attended by a certain number of disasters, and, if these are justifiable, then no criticism can be made, but, in view of the fact that primary enthusiasms are so often relegated to the limbo of forgotten things, it behooves us to make some attempt to prepare a manner of reasoning that will enable us to avoid these pitfalls, especially in the dangerous field of anaesthesia.

The goals at which surgical efforts are persistently aimed are the conservation of life and the relief of pain. These objects are most generally attained by attacking various pathological processes with the hope of either their removal or correction, and it is in a way ironical that this cannot be done without plunging our patient into deeper trouble than he already finds himself by adding more discomfort and distress and by further jeopardizing his life in order that it might be saved. Thus many factors must be carefully integrated before the procedure to be undertaken can be determined. Condition, operative hazards, the risks of to do or not to do, and the expected result are only a few of the components of an equation, which fortunately can most often be easily solved; but as time goes on new discoveries and information must be recognized, thus interjecting new factors into our calculations. Consideration of new anaesthetics must be so included for the purpose of avoiding the dangers of radicalism and at the same time escaping the rut of conservatism.

Already the signs are in the offing that the present wide use of the barbital derivatives will be but a memory and that rectal anaesthesia with non-volatile substances will be a thing of the past.[1] However, it should be borne in mind that these substances acquired a wide use and an extensive following. It is a question if it had been better had they not existed at all rather than cause some disasters which may not have occurred were the usual familiar routine procedures followed. Their life preserving characteristics have not been equally clearly demonstrated in order to warrant their use. The tragedies associated with the administration of ethylene illustrate this point and the use of this anaesthetic is gradually diminishing. Ethylene was known to be highly explosive, and yet this characteristic was not emphasized until its use became general and more accidents occurred than could possibly be offset by the benefits derived from its use.

In general these clinical experiments have a great potential value in that they may direct

1. Jour. A. M. A., November 8, 1930, Use of Non-Volatile Substances as Anaesthetics.—Current Comment.
Jour. A. M. A., November 8, 1930, Modern Tendencies in Anaesthesia.—Miscellany.

our attention more forcefully to the problems of anaesthesia, to the desirability of attempting to use newly introduced anaesthetics and may produce a healthy scientific skepticism in our attitude towards any procedure, new or old. All anaesthetics probably have a sphere of usefulness to which they eventually become relegated, analogous to that which so many drugs ultimately find their niche of therapeutic value. It is strange that among all this one has to search very closely for references to the virtues of ether, nitrous oxide and local anaesthesia and little mention is made of improvements in them, improvements, by the way, which are parallel and more than equal the claims of the exponents of the new anaesthetics, including spinal anaesthesia in its present state. One can well wonder at times if some of the good results obtained have been due just as much to better surgical technique, pre-operative and post-operative care. The mere fact that an individual has been anaesthetized and wakes up has no more significance in the present era than that he has been operated and survived, and it might be of benefit to evaluate anew many of the factors which contribute to the surgical success of the present.

Today the average operation upon a patient in good condition presents little difficulty and is successful as far as life itself is concerned. Maintenance of life and a degree of pre- and post-operative comfort are thus practically assured to the majority under present conditions. The patient in poor condition and the hazardous risk are those to whom our attention must be turned. In such cases the hazard of the different types of anaesthesia is difficult to evaluate and the part they play in the demise of patients is not definitely known. Accordingly, it would be well to establish an ideal for such cases and then compare our methods with it. The ideal operation would be one in which a fairy hand performed the work with such dexterity, lightness, and gentleness that little or no pain would occur and the patient disturbed so little as to be negligible; thus the operation becomes an incident in the process of returning the patient to health. That this surgical utopia might some day exist is not beyond the limits of probability and, because of rapid changes and refinements in technique, may even enter the realm of possibility in the not too distant future.

Indeed, we have some signs of its presence today because of the many major procedures done under local and regional anaesthesia. Not unfamiliar are the cases which are carefully prepared, operated under local anaesthesia, and returned to their rooms able to resume their pre-operative state of quietude and to begin a smooth and peaceful convalescence with only the memory of a rather warm uncomfortable hour on a hard table under hot sheets.

Surgeons who are most proficient in this wonderful accomplishment are using entirely new methods and instruments, the employment of which in my humble opinion is by no means adequately taught or sufficiently impressed upon our consciousness. These include psychoanaesthesia, anoci-association, surgical strategy, negative and positive air pressures, extreme gentleness along with the no hand touch and feather edge dissection and the use of suitable methods and instruments in conjunction with them. There are few indeed who realize what pressures are at their finger tips, and yet nearly every surgeon will be far more gentle and respectful of tissues when performing a herniotomy under local than when he is doing the same thing under general anaesthesia.

A digression to a matter of operative technique is not incompatible with the spirit of this discussion. At the same time I do not wish to be dogmatic or attach too much importance to skill, rapidity or finesse. Regardless of how adept, refined or dextrous a surgeon may be, these qualities are still subordinate to his surgical judgment, ingenuity, resourcefulness and mental aptitude for the task. Surgery does not differ from every other sphere of human endeavor in that it requires an inherent talent for its fullest accomplishment. That talent may be termed surgical instinct or intuition. It is as necessary to the successful surgeon as the legal, theological or technical inclinations are to those who would be successful in the law, ministry or engineering professions, and it cannot be replaced by just scholarship or desire. Nevertheless, skill in technique is of tremendous importance and it should be given its just place and adequately emphasized in surgical training. Yet it is strange that it is universally omitted. While my sources of information are meagre, I know of no institution where the refinements of manual dexterity in surgery are taught.

Such is not the case with other things re-

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quiring manual skill. The musician, the golfer and the artist are carefully taught what to do with their fingers, wrists, hands and eyes and the benefits of muscular relaxation and mental control are forcefully impressed upon them until the minutest detail is performed subconciously almost entirely under reflex control thus leaving the mind free. One will readily concede that the concert hall is no place to learn to play an instrument nor the tournament the time to become an expert. Regardless of the degree of skill, practice at detail and maneuvers will in time improve it and this cannot be done at the operating table. How it can be done is difficult to say. While my own degree of skill is, in fact, below the average, this matter has occupied my attention for some time and I hope in the near future to be able to express some views which perhaps will receive better treatment in more experienced and capable hands.

The problem of reducing the operative hazards for cachectic and senile patients or any in whom the vital forces have little power cannot be answered by the course we are now pursuing. The sudden exodus of such patients a few hours after operation is a disconcerting experience with which we are all familiar, and our feelings are not mollified by the reflection that no known surgical error has been committed. The terms shock, collapse, hemorrhage, or cardiac failure, are explanations only and their full significance is as yet unknown, pointing to a further need for intensive study of the physiology of the patient during operation including the effect of psychic states. The desire and the ability to do this should be a part of every surgeon who contemplates departing from known safe channels into speculative and experimental pathways.

Already suspicion has been cast upon the barbital compounds and tribromethanol and the indications at present point to a rather limited sphere of usefulness as basal anaesthetics or as a means of pre- and post-operative quietude. It is not unreasonable to suggest that such an outcome may have been predictable. These substances were known experimentally to have produced incomplete anaesthesia, without moment to moment control, to have a low margin of safety and to afford insufficient relaxation. Furthermore, in the event of accident, neutralizing substances had not been worked out. If anaesthesia were unknown today, their use could not be questioned but, in view of our present successful anaesthesia, their inclusion into our surgical armamentarium was open to question until experimental results warranted clinical trial.

Obstetrical analgesias also have come and gone. Twilight sleep, after leaving a trail of infant mortality and publicity, has disappeared. Its original use was never justified. Directed primarily at pain, new converts to its use did not in the beginning study carefully the relation between pain and maternal and infant mortality. If its motive was humanitarian only, it was another rose with thorns. In what manner it could reduce postpartum hemorrhage, fetal injury, or maternal accidents was not clearly defined before its use became widespread. Obstetrical analgesias are still sought in the large lying-in clinics of the cities but their use is diminishing as the diagnostic accuracy of obstetrical pathology and the probable mechanism of each individual case is increasing. The reasonableness of producing effects in a mother, which in turn may possibly affect her foetus, is open to question until methods of accurate observation of the foetus are developed.

So much for hindsight, axiomatically far superior to foresight. The opportunity for the latter is at hand in the case of spinal anaesthesia, criticism of which may prove a veritable boomerang to its author. It has long been thought that successful anaesthesia of the spinal cord at various levels would eliminate many of the dangers of general anaesthesia and rob surgery of some of its horrors. To that end intensive research has been carried on to find a non-toxic substance and a means whereby it could be made to stay in the spinal cord at the level at which it was put. This research has been rewarded by the practical accomplishment of both objects and clinical trial has demonstrated the successful use of spinal anaesthesia in many cases and under various conditions. Successful spinal anaesthesia is indeed a delight to the surgeon and a not unpleasant experience for the patient.

It is significant to note, however, that accurate and intimate information is becoming available after its use has become general and not before; in fact, many began its use with only literature supplied by the manufacturer. Many untoward effects have been noted, but, as long as these are due to faulty administra-

tion, imperfect media or inadequate compounds, experience of the past warrants the assurance that the future will find the elimination of these defects. The bogey of respiratory paralysis has just about been disposed of.

However, evidence is being adduced that is beginning to show that anaesthetization of a large part of the body cannot be done without the whole organism being affected in some way. For example, the effect upon the cardiovascular system has been such that it defied correction even several hours after the operation had been concluded.[2] It is evident, of course, that in such cases our means of stabilizing the blood pressures are inadequate and, if this be accepted as fact, then our tampering with it is certainly unwarranted.

Recent investigation has served to bring to light the effect of spinal anaesthesia on a patient in the event that an accident or catastrophe occur during the operation. It has been shown in dogs that the danger of circulatory failure from hemorrhage is greater under spinal anaesthesia than under ether, and the reaction of various individuals to proportionate amounts of spinal anaesthesia is strikingly different.[3] This would all be very well if the anaesthetic could be instantly removed if untoward results occur, but should this be accomplished it is inconceivable that the return of individual nerve cells to normalcy would occur at the same time.

Therefore, the feasibility of spinal anaesthesia depends upon two issues,—first, the danger to life in the event that an operative accident or catastrophe occurs, and, second, the ability to forecast previous to administration the reaction of the life processes of individuals to it. According to this manner of reasoning, the fact that a patient can be successfully and comfortably operated under this form of anaesthesia becomes of secondary importance. These considerations apply just as well to anaesthetics now in use, but their continued use is based upon and justified by a sound principle—controllability—which may be applied to the volatile anaesthetics and local and regional anaesthesia. In their administration, when correctly done, vital processes are disturbed but little and, when they are, mere discontinuation of the anaesthetic results in a comparatively short time in the return of the majority of the forces in operation during consciousness even though the patient remains unsconscious. Practically every vital force remains under full control for as long a time as necessary, and individual variations are easily taken care of as they present themselves. Volatilty of the anaesthetic serves to explain this phenomenon, but perhaps it were better to use the term evanescent action because an anaesthetic material which is not volatile but still is evanescent in action may be discovered. The laws of chemistry may dictate that these two properties must go hand in hand and, in the final analysis, the whole affair is for the chemist and the physiolgist to work out, not the clinician.

The phrase "When correctly done" is full of life and meaning, the keynote to either success or failure. In anaesthesia it often determines life or death. To many anaesthesia means pouring ether on a mask, to others it is the goal of endless effort, study and experiment. The commonest spectacle in our operating rooms today is a highly trained, brilliant surgeon performing an operation with a nurse or an indifferent interne, often picked at random as the anaesthetist. When ether pneumonia develops, the blame is laid upon ether. It is reasonable to believe that mortality figures would vary somewhat if the anaesthetist and surgeon were equals in their respective fields and the former were as alive and eager to take advantage of variable anaesthetic opportunities occurring in each case as the latter does of analogous surgical situations.

The technique of our present anaesthesia is even now not standardized. In even such a minor detail as the mask, hardly any two institutions use the same covering and as far as I know no manufacturer has developed a special material for this purpose. Yet certainly various materials diffuse ether differently, admit various amounts of air and permit a variable amount of carbon dioxide and moisture to either escape or be rebreathed. Other situations could be cited but are unnecessary to bring out the view that anaesthesia is commonly thought to depend more on materials than it does on brains. Tabulations of results with any anaesthetic seldom include the ability of those handling them, a rather important omission. As in surgery, materials, instruments and skill are vital necessities for anaes-

2. Harrison, P. W.: Spinal Anaesthesia in the Near East. **Archives of Surgery**, October, 1930.

3. Burch, J. C., and Harrison, T. R.: The Effect of Spinal Anaesthesia on the Cardiac Output. **Archives of Surgery**, August, 1930.

Burch, J. C., Harrison, T. R., and Blalock, A. A.: Comparison of the Effects of Hemorrhage under Ether Anaesthesia and Under Spinal Anaesthesia. **Archives of Surgery**, October, 1930.

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thesia but brain power constitutes the axis around which both revolve.

Perhaps the impression has been created that criticism has been aimed at our predecessors who have accomplished the brilliant strokes of genius which seem so commonplace to us today. This is a consummation devoutedly to be undesired. The pioneers in anaesthesia had nothing from which to select and, as anaesthesia was necessary for life, any risk was justified. But today human knowledge is so extensive and the methods for experimental study are in such a highly refined state that risks can be reduced to a minimum when new methods are under consideration. In the case of spinal anaesthesia the imperfections which exist today do not enter into this discussion. No method is perfect at its inception. The questions are, is it sound in principle, and is it as sound in principle as local and regional anaesthesia, and upon both questions I find myself upon the negative.

The use of local anaesthesia involves no hazards, but depends upon surgical strategy and refinements in technique. These in themselves are worthy of achievement, but require infinite patience and study. The whole gamut of major surgery has been successfully performed in this manner and thus presents a goal worthy of aspiration. It may perhaps be impertinent to predict that surgery will reach its ultimate perfection in this manner unless some material is discovered which will eliminate the sense of pain without disturbing any other vital force. Successful local and regional anaesthesia would be a brilliant achievement for surgery, and may yet prove the means of reducing the operation to a mere incident in the process of restoring the patient to health.

With regard to anaesthesia, two courses are open to those who are constantly searching for improvement and promoting the progress of surgery. One is individualistic, and tends to create an operative entity with local and regional anaesthesia as a basis but in which the surgeon himself predominates. The other is by the use of materials and methods whereby the whole or a part of the body is placed under complete anaesthesia with associated physiological changes. The latter is as admirable as the former, but should not be undertaken by the clinical surgeon unless he has accurate and intimate information with which he can eliminate any added risk that this method must of necessity include.

INTRAVENOUS UROGRAPHY IN THE DIAGNOSIS OF RENAL TUBERCULOSIS.

By ALAN CHENERY, M. D., Washington, D. C.

In the relatively small number of cases of tuberculosis of the kidney reported thus far diagnosed by the use of uroselectan or skiodan, there have been no permanent ill effects due to the administration of the dye.

Practically all patients have a sense of warmth and thirst. A few complain of nausea and slight pain in the arm at the site of injection, but these symptoms are much less than the difficulties encountered both during and after the average pyelogram made with the cystoscope.

The very great ease and simplicity of intravenous urography suggest a word of caution. We should not lose sight of the great field of usefulness of the cystoscope, making possible as it does a visual inspection of the posterior urethra, the bladder and ureteral orifices, as well as a study of each kidney function separately, intra-urethral and intra-vesical manipulations and the added knowledge to be gained by urography,

Intravenous urography should supplement and not replace the cystoscope.

Case Report

R. C., age twenty-eight, married, admitted to hospital December 27, 1930. Chief com-

Fig. 1.

plaint vesical irritation for past four months, and occasional dull pain in region of left kid-

ney past year. Chest examination negative. Cystoscopic examination, bladder capacity 100 c.c., moderate degree of cystitis, right ureter catheterized, specimen negative for tubercle

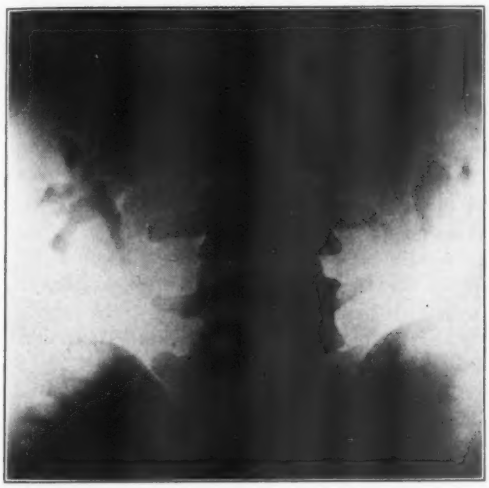

Fig. 2.

bacilli, and showed only occasional pus cell. Unable to catheterize left ureter, orifice red and edematous. Tubercle bacilli found in bladder urine. On December 29th, examination

Fig. 3.

of urinary tract by intravenous injection of skiodan. Pictures taken five, thirty, and sixty minutes after injection revealed a normal right kidney with calices of left kidney apparently obliterated. Phenolsulphonephthalein test—right kidney 15 per cent in fifteen minutes. Hemoglobin 80 per cent, red blood cells 4,390,000, white cells 8,500.

In view of the urographic findings and the presence of tubercle bacilli in the bladder urine, it was decided to remove the left kidney. This was done on January 5th. Pathologic report showed tuberculosis of the kidney. Patient made an uneventful recovery and was discharged from the hospital on the twenty-sixth post-operative day.

1835 *Eye Street, Northwest.*

Analyses, Selections, Etc.

Longer Library Hours Urged for District of Columbia.

The following article by Dr. Arthur MacDonald of Washington, D. C., appeared in the *Washington Times*, for April 9th:

"It has often been emphasized that Washington should be a great educational and university center, to attract scholars from all over our country, with this the writer is in hearty accord. To carry out this plan, the first and most important thing, is to make the principal libraries daily accessible to all from 9 A. M. to 10 P. M. and especially holidays when many more can come to them.

"The Librray of Congress has set the example; it is one of the best, if not the best library in the world. The distinguished librarian, Dr. Putnam, has made every possible effort to improve it in every way, and has determined to keep it open every day including all holidays throughout the year, and especially in the summer, when university professors, teachers and specialists can come best to conduct new original research in their respective lines. The manuscript division, it is hoped, soon will be opened until 10 P. M. to accommodate all historical investigators. Every research worker can have a table or room all to himself with every modern convenience. This library is an honor to the American intellect.

"Another important library is that of the Surgeon General's Office in the Medical Museum; this also is one of the best, if not the best medical library in the world; its service is excellent as far as it goes, but un-

fortunately, it closes at 4:30 P. M., every day and at 1 P. M. half-holidays, making its fine collection of books almost useless to those physicians in other places who might want to come to Washington to do research work as is done in the Library of Congress.

"The Secretary of War should see to this matter at once, and ask Congress for the additional employees necessary to keep the library open from 9 A. M. to 10 P. M. every day of the year and especially holidays.

"The Carnegie Library in the city and other libraries like that in the Smithsonian Institution should follow the example of the Library of Congress.

"There is really no valid excuse why those in control of these and other important public libraries should not move at once, make an estimate and ask Congress for the extra employees and appropriations to make these public libraries really public and accessible to everybody at all times.

"It is true, that at first, these privileges might not be utilized, but it would not be long when it becomes known that every scholar and investigator who comes to Washington can find these libraries open to him all the time, the professors and teachers not only in nearby, but in distant States will come, so that it will not be long when Washington will be a university center in reality for research of the highest order.

"Let the Secretary of War and all others in control of Washington public libraries get busy at once and see to it that Washington becomes soon a library center, as well as an educative and university one."

Woman's Auxiliary, to the Medical Society of Va.

Report on the Ninth Annual Meeting of the Woman's Auxiliary to the American Medical Association Held in Philadelphia, June 8-12, 1931.

This report is being made at the request of Mrs. J. Allison Hodges, Richmond, Va., President of the Woman's Auxiliary to the Medical Society of Virginia, who was unable to attend.

To me this meeting was a revelation. It was my first attendance upon a National Auxiliary meeting and I had not anticipated anything so impressive.

The entire roof garden of the Bellevue-Stratford Hotel had been secured as headquarters. There were about 500 women in attendance. Mrs. Walter Jackson Freeman, of Philadelphia, was general chairman. (Many of us remember Mrs. Freeman who addressed our State Auxiliary in Charlottesville two years ago.) During the four days of the Convention, Mrs. Freeman was on the job every minute. Her committees were many and they all seemed to function perfectly.

Socially we had a delightful time. Luncheons, teas, receptions and dances—something for our pleasure every afternoon and evening.

The business sessions were all instructive and inspirational.

Mrs. J. Newton Hunsberger, the National President, read a most encouraging report of the year's work. Several states reported a 100 per cent organization. (Why can't we women of Virginia put our State in this class?) "From a survey recently made," Mrs. Husberger said, "we find that the average doctor's wife belongs to from three to five different organizations and, therefore, has a splendid opportunity for promulgating the aims and objects of the medical auxiliary, such as, preventive medicine, health education and health legislation."

The value of the "Study Programs" was stressed. These programs have been sent to all states for use in the county auxiliaries. Some states have prepared a study course of their own covering the medical and health laws as related to that particular state. Ever and always the plea of our President was "Physician's wife educate thyself."

The three minutes allowed for the reading of state reports sufficed only for a summary of what was being done. A most encouraging fact was that *each* state had a report. The report from Virginia, in the absence of our President, Mrs. J. Allison Hodges, was read by Mrs. Stuart Michaux, of Richmond. It was evident from this report that Virginia, under the able leadership of Mrs. Hodges, is making progress.

Among the many things that our sister states are undertaking, the Student Loan Fund seems to have the strongest appeal. This fund for medical students, both men and women, is sup-

ported by the local auxiliary as well as by the state medical society where this work is being done.

Mrs. Redd, our National Historian, has written the history of medicine in Texas, "The Medicine Man." Half of the proceeds from the sale of this book goes to the Student Loan Fund in Texas.

Our new President, Mrs. Arthur B. McGlothlan, of St. Joseph, Mo., presided at the closing session. At this time, there was held a round table discussion on the question "What Have I Gotten Out of the Convention?" Many took part in this discussion and, needless to say, it was very interesting for I believe all present realized, as never before, the part the doctor's wife is taking in spreading the gospel of preventive medicine and health education.

In conclusion I would say, go to the A. M. A. meeting in New Orleans in 1932 and learn for yourself the actual and potential value of the Woman's Auxiliary to the American Medical Association.

AMY TUTWILER ENNETT
(MRS. N. T. ENNETT),
President, Richmond Auxiliary,
Delegate to National Convention.

Richmond, Va.,
June 22, 1931.

Woman's Auxiliary to the Norfolk County Medical Society.

The installation of officers and presentation of posters featured the meeting of this auxiliary on May 26th. The installation ceremonies were conducted by Mrs. M. N. King, parliamentarian and ex-president of the auxiliary. The following officers were installed: Mrs. R. U. Burges, president; Mrs. Franklin D. Wilson, president-elect; Mrs. Robert McMurran, Mrs. C. L. Harrell, and Mrs. C. A. Saunders, vice-presidents; Mrs. Millard B. Savage, recording secretary; Mrs. Frank Redwood, assistant recording secretary; Mrs. C. J. Devine, corresponding secretary; Mrs. F. C. Rinker, assistant corresponding secretary; Mrs. C. C. Smith, treasurer; Mrs. Albert Wilson, historian; Mrs. N. G. Wilson, assistant historian; and Mrs. Eugene Lowenberg, parliamentarian. Prior to these ceremonies, Mrs. W. P. McDowell, retiring president, was presented a silver bowl.

Posters in blue and gold, representing the various group activities of the auxiliary, made by the chairmen of the various committees, were presented. These posters were exhibited at the meeting of the Norfolk County Medical Society at its meeting on June 1st.

Mrs. Julian Rawls, treasurer, reported a total of $2,032.83 received for the year.

Mrs. McDowell presented the auxiliary an oak gavel made from a part of a famous old tree in Hickory.

Open Letter to Members.

DEAR MEMBERS:

The annual meeting of the Medical Society of Virginia will be held in Roanoke, October 6th to 8th. The Woman's Auxiliary is always held in conjunction with this meeting.

The weeks fly so swiftly that October will be here before we know it. I am writing this note to urge that our members bear the Auxiliary upon their minds and hearts during their summer travels. Whenever possible, talk to doctors' wives in any city, town or county in Virginia and try to interest them in forming an auxiliary. Send names and addresses of any prospects to our Chairman of Organization, Mrs. M. N. King, 1314 Westover Avenue, Norfolk, Va., or to the President. They will gladly follow your efforts with letters of information and visits if desired.

We believe when the majority of the work of the Auxiliary is fully realized by the women, they will gladly join with us in our efforts to cooperate with the Medical Society in improving the health conditions of the State. We are especially interested in the preschool examinations of children by the family physician and the pre-natal and post-natal clinics now being held in many cities in the State for the benefit of mothers.

Mrs. Southgate Leigh, of Norfolk, Va., Chairman of Health Education, has prepared some excellent study programs which she will send you upon request.

Our slogan is "Inform Ourselves First" so that we may be able to give definite information to others.

In addition to the usual reports at the Roanoke meeting, we wish to have round table discussions and plan for the future work of the Auxiliary. We will welcome any suggestions for the convention program.

After the inspiring report from Mrs. Ennett, our delegate to the American Medical Association Auxiliary, I feel that we should redouble our efforts and extend our work so that Vir-

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ginia can take her rightful place among the other States.

Call upon me if I can serve you in any way.

Sincerely,

MARY GRAY HODGES,

(MRS. J. ALLISON HODGES.)

President, Woman's Auxiliary to the Medical Society of Virginia.

Panoramic View of the Woman's Auxiliary to the A. M. A.

EXCERPTS FROM REPORT BY MRS. C. W. GARRISON ON SOUTHERN DISTRICT

The third or Southern District of the Woman's Auxiliary to the A. M. A. may not have moved so rapidly as regards the number of Auxiliaries organized as the other sections but the quality of those existing have proven them to be of the greatest value in promoting the aims of the national body.

Alabama reported three counties organized last year, and is particularly interested in a health program giving especial attention to children with a tuberculous condition.

Arkansas reported thirteen counties organized, all giving attention to a health program and trying to raise an adequate loan fund for medical students only. Some of the counties contributed obstetrical kits for use in the rural districts. Many of the Auxiliary members in Arkansas are devoting much time and energy to the Parent-Teacher work and are aiding in the various civic and welfare organizations.

Florida, large areas of which are sparsely settled, has ten auxiliaries. Some of these are composed of a combination of two or more counties. Proof of the quality of these groups was seen when a large medical organization and its Auxiliary were entertained in Miami in 1929.

Georgia, which has given to A. M. A. Auxiliary one of its most efficient presidents, Mrs. Allen H. Bunce, has more counties than any other state of its size and has twenty-one of these organized for Auxiliary. They have the full approval and cooperation of the State Medical Association and, having attended their State convention in 1929, the writer will vouch for the fact that no national meeting is more replete with interest and enthusiasm than were found in Georgia, nor have we found anywhere a greater desire to foster the aims and purposes of the National body.

Louisiana reports only two parishes organized. Taking into consideration the fact that one of these two auxiliaries has a greater enrollment than have some whole states makes us feel that Louisiana will not be far behind in the number of parishes when her final report of accounting comes in. She is not lacking in interest in any direction because the president of the State Auxiliary is of the type who says "We will."

Mississippi reported four auxiliaries last year, and again we are able to speak with assurance of our expectations from this state. The president of the State Auxiliary attended the meeting in Detroit and returned to her state carrying with her additional enthusiasm and determination to gather into the fold more county organizations. This Auxiliary has the approval and encouragement of the medical men of their state to go forward.

We may expect to hear of more interest, as well as more auxiliaries in North Carolina. Though we have before us no report for last year, we do know of their interest in the past and believe we may hear the number five at least doubled in their next report.

South Carolina shows thirteen counties organized, and the president was prompt to reply with assurances that better things are ahead for next year.

Oklahoma reports only one Auxiliary but we feel certain that others will be added before June.

On invitation from its President we had the pleasure of meeting with the Davidson County Auxiliary in Tennessee early in October and found a splendid group of women earnestly desiring to serve in the most useful way. While only four auxiliaries are reported from Tennessee, they are the counties in which the largest cities are located. The distances are great between, but with the known interest and enthusiasm of the two counties visited, Davidson and Shelby, we are assured that Tennessee will bring to the next National Meeting a report filled with accomplishments which tend to fulfill the aims and purposes of the Auxiliary.

We were not fortunate enough to meet with the Texas Auxiliary, but Texas, the mother state of the Medical Auxiliary as it is now recognized, has thirty-five County Auxiliaries and, with a live, interested organization chairman such as the present one is proving herself to be, others will be added before the next State meeting in May. Texas Auxiliaries

have earnestly promoted a health program, always working shoulder to shoulder with the fine progressive men of the Medical Association who, in turn, endorse the Auxiliary movement, and are unstinted in encouragement to further development of the organization.

The Truth About Medicine

In addition to the articles enumerated in our letter of April 25th, the following have been accepted:

Hixson Laboratories, Inc.
  Rabies Vaccine (Hixson).
Lederle Laboratories, Inc.
  Concentrated Pollen Antigen (Lederle) Ragweed Combined.
  Diphtheria Toxin for Schick Test in Peptone Solution.
Eli Lilly & Co.
  Diphtheria Toxoid—Lilly.
  Syrup No. 112—Ephedrine Hydrochloride.
Chas. Pfizer & Co.
  Calcium Gluconate—Pfizer.
Spicer & Co.
  Quiniobine Ampules, 2 c.c.
E. R. Squibb & Sons
  Grasses Combined Pollen Allergen Solution—Squibb.
  Cottonwood Pollen Allergen Solution—Squibb.

The following articles have been exempted and included with the List of Exempted Medicinal Articles (New and Non-official Remedies, 1930, p. 477):

Hixson Laboratories, Inc.
  Diphtheria Antitoxin.
  Tetanus Antitoxin.

NEW AND NON-OFFICIAL REMEDIES

Mead's Powdered Brewer's Yeast.—Dried brewer's yeast harvested under aseptic conditions; it assays approximately 13 vitamin B_1 units per gram and approximately 1 vitamin B_2 unit per gram. The product is proposed for prophylaxis and treatment of conditions arising from deficiency of the vitamin B complex in the diet. It is also proposed as a means of stimulating the appetite and growth and for a beneficial effect in lactation. Mead Johnson & Co., Evansville, Ind. (Jour. A. M. A., May 2, 1931, p. 1477).

Diphtheria Toxoid.—A diphtheria toxoid (New and Non-official Remedies, 1930, p. 364), prepared from diphtheria toxin by treatment with formaldehyde. It is marketed in packages of one immunization treatment and in packages of fifteen immunization treatments. Eli Lilly & Co., Indianapolis.

Ampules Solution of Nupercaine—Ciba, 25 c.c.—A 1:1,000 solution of nupercaine—Ciba (Jour. A. M. A., March 21, 1931, p. 946). Ciba Co., Inc., New York.

Schieffelin Psyllium Seed.—A brand of psyllium seed—N. N. R. (New and Non-official Remedies, 1930, p. 311). Schieffelin & Co., New York. (Jour. A. M. A., May 16, 1931, p. 1694).

Diphtheria Toxin for Schick Test in Peptone Solution.—A diphtheria toxin (New and Non-official Remedies, 1930, p. 380), made by growing diphtheria bacilli in broth, ageing and diluting with peptone solution according to W. E. Bunney. The product is ready for use. It is marketed in packages of one syringe containing diluted diphtheria toxin sufficient for one test and in packages of one vial containing sufficient for ten tests. As a means of control, diphtheria toxin heated to 75 C. and diluted with peptone solution is supplied. Lederle Laboratories, Inc., Pearl River, N. Y.

Pollen Allergen Solutions—Squibb.—The following pollen allergen solutions—Squibb (New and Non-official Remedies, 1930, p. 27; Jour. A. M. A., December 20, 1930, p. 1913), marketed in 5 c.c. vials, have been accepted: Cottonwood Pollen Allergen Solutions—Squibb. The following pollen allergen solutions—Squibb (New and Non-official Remedies, 1930, p. 27; Jour. A. M. A., December 20, 1930, p. 1913), marketed in 5 c.c. vials, in treatment set packages A, B, C and D, and in three vial treatment packages, have been accepted: Grasses Combined Pollen Allergen Solutions—Squibb (Bermuda Grass, June Grass, Orchard Grass, Red Top, and Timothy, in equal parts). E. R. Squibb & Sons, New York. (Jour. A. M. A., May 30, 1931, p. 1872).

Book Announcements

An Introduction to Gynecology. By C. JEFF MILLER, M. D., Professor of Gynecology, Tulane University School of Medicine; Chief of the Department of Gynecology of Touro Infirmary; Senior Visiting Surgeon, Charity Hospital, New Orleans. St. Louis. The C. V. Mosby Company. 1931. Illustrated. Octavo of 327 pages. Cloth. Price, $5.00.

Clinical Dietetics. A Textbook for Physicians, Students and Dietitians. By HARRY GAUSS, M. S., M. D., F. A. C. P., Instructor in Medicine, University of Colorado, School of Medicine. Assisted by E. V. GAUSS, B. A., Formerly Assistant Dietitian, Presbyterian Hospital, Denver, Colorado. St. Louis. The C. V. Mosby Company. 1931. Illustrated. Octavo of 490 pages. Cloth. Price, $8.00.

Transactions of the College of Physicians of Philadelphia. Third Series. Volume The Fifty-Second. Philadelphia. Printed for the College. 1930. Octavo of 299-lxxii pages. With Illustrations. Cloth.

Hospital Service in the United States. 1931. Tenth Presentation of Hospital Statistics by the Council on Medical Education and Hospitals of the American Medical Association. Hospitals Registered by the American Medical Association. Reprinted from the Hospital Number of the Journal of the American Medical Association. March 28, 1931. Pamphlet of 97 pages. Price, 50 cents.

The Doctor and His Investments. Financial Policy and Technique for the Physician. By MERRYLE STANLEY RUKEYSER, B. Lit., M. A., Financial Editor, Medical Economics and Dental Surgery; Financial and Editorial Writer, New York American and Associated Newspapers; Associate in Journalism, Columbia University, etc. Philadelphia. P. Blakiston's Son & Co., Inc. 1931. Octavo of 330-viii pages. Cloth. Price, $2.50 net.

The Ruins at Kiatuthlanna Eastern Arizona. By FRANK H. H. ROBERTS, Jr., Smithsonian Institution. Bureau of American Ethnology. Bulletin 100. United States Government Printing Office. Washington. 1931. Octavo of 195-viii pages. Illustrated. Paper. For sale by the Superintendent of Documents, Washington, D. C. Price, 65 cents.

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Editorial

Ennion Gifford Williams.

"On the health of the people depends the strength of a nation,"—this recorded observation of a wise philosopher has become a universally recognized truism. The principle declared was known to peoples and civilizations of remote antiquity, most of whom regarded all sickness, both individual and widespread, as visitations of an offended deity. The alleviation of the curse was naturally through propitiation in order to appease their childish god, the creation of a childlike mind. Evidences of an awakening to a more or less rational appreciation of cause and effect may be found in the records of ancient Egypt, while definite laws of sanitation and health were laid down by that remarkable leader and benign autocrat Moses, who probably acquired the necessary knowledge in this line during his sojourn in Egypt. So throughout most of recorded history we find evidences that attempts of one sort or another have been made to improve the health of peoples through statute and commands, the energy of the attempts depending however, in large measure on the appearance of an epidemic or pestilence.

During these periods all efforts were naturally ineffective since no real knowledge of the true relation of cause and effect was had; so not until the discoveries of Pasteur was it possible to prevent diseases which effect large numbers of people. Even after his discoveries were widely known it required considerable time to overcome prejudice and educate both physicians and the public generally, to a sufficient degree to make it possible to apply the newly found knowledge on a sufficiently large scale to be of general benefit.

So public health measures applied through organized agencies and supported by national or state statute date from about the beginning of the present century. A few pioneers appeared in several states of this country about the same time, who saw far into the future and began the fight for the eradication of communicable disease through the agency of an organized public health department. Among those was Ennion Gifford Williams—Virginia's first, and up to the time of his death her only Health Commissioner—the oldest State Health Commissioner in point of continuous service in the United States.

Ennion Williams was born January 17, 1874. Sprung from the loins of sturdy, determined pioneer Virginia stock of ancient lineage, he started life with a goodly heritage, well prepared from inheritance for the life of activity and accomplishment which he lived. He was nurtured by parents who possessed and followed with inviolable fidelity the faith of their fathers, and in a home where the fear and admonition of the Lord were literally palpable, and yet tempered with a gentleness and sweet family union which can be appreciated and understood only by one whose good fortune it was often to enjoy its generous, genial, and kindly hospitality.

This family relation was followed and maintained in his own home throughout the years by Ennion and his noble wife, even to the gathering around the fireside at eventide of the whole family while he, the head of the house read from the Scriptures and offered a simple prayer; and it has been the privilege of the present writer to witness this evidence of loyalty to and dependence on Divine Leadership.

ENNION G. WILLIAMS, M. D.

In September, 1892, he entered the University of Virginia, first taking an academic course and afterwards studying medicine, earning his doctorate in 1897. During these years at the University he formed some of his closest friendships, and some of these have endured through succeeding years, to support him in a feeble way, in some of his struggles for the health of all the people of his beloved State of Virginia.

Although his attention was first directed to the possibilities of a career in public health some time before he became of age, his determination to follow his inclinations was probably crystallized while serving as an interne at Willard Parker Hospital, in New York, where many another has received the inspiration to fight communicable disease as a vocation. He served elsewhere also in the days of his apprenticeship, in other branches, for he felt that his experience should be varied, and that no bit of knowledge in the medical sciences would be wasted. He had heard of work being done, and knowledge being possessed by those on the other side, and went finally to Europe where in the all too short time at his command he rounded out the fundamental education on which he was to erect the superstructure of the now extensive Health Department of Virginia.

The knowledge he had thus acquired was meager in comparison with what is known today concerning communicable diseases, their causes, the manner of their spread, and the methods of combating and finally overcoming them; but he had imagination — vision, and a fixed determination, and the race was begun. The establishment of the State Department of Health was accomplished after tremendous effort on the part of those who saw the necessity for such a branch of state government, and Ennion Williams was the guiding spirit in its establishment and the inspiration for the necessary legislation. He was appointed first Health Commissioner and remained through administration after administration, while fights in other political fields were waged and lost, until his death on June 6, 1931.

The history of the activities of the State Health Department, and its accomplishments notably as regards typhoid fever, tuberculosis and rural sanitation may be learned by reading the printed reports, and the minutes of the State Board of Health, and are in a measure familiar to all who are truly interested. That the success of the health movement in Virginia has been due to the wisdom and efforts of Ennion Williams none will argue. To what personal traits and characteristics were all these things due?

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It has been said that no man of affairs can be adequately appraised until fifty years have elapsed since his death, and in a measure this is true; yet any subsequent appraisal must rest largely on the evidence of contemporaries, however, much this evidence may be biased by admiration and affection on the one hand and animosity or bitterness on the other. Perhaps the most important of the personal traits of Ennion Williams, which made for success, was the willingness and desire to learn. It must be recalled that when he took over the direction of the health destiny of his state there were no really trained public health workers or administrators; therefore it was his constant effort to possess himself of any knowledge through which his work could better be done. He listened to and learned from any one who might give him even a thought on which to act. He read continuously and visited other health departments particularly that of the nation. He not only visited laboratories where investigation was being made of newly discovered diseases, and new evidence acquired regarding the cause and cure of well known but poorly understood ones, but he was an untiring worker in the laboratory himself. Whatever knowledge he acquired, whether of a scientific or administrative nature, he was willing and anxious to pass on to others. He described in minutest detail to his co-workers and even those in humbler places what he had learned, and together they would devise means and methods of applying known facts. Thus he was both a student and a teacher.

A desire for truth was in reality with Ennion Williams a passion. When the truth was found he followed it and adhered to it with almost puritanical conscientiousness which some attributed to stubbornness, but which those who knew him best knew to be due to a skepticism towards the acceptance of unproved near truths, and to what might be called a radical conservatism. When once convinced that what he thought was wrong, no one was more ready to act in accordance with facts—but they must be facts and not theories; truth was the guide of his conscience and conscience the guide of his life and conduct. He acted in accordance with the dictates of his conscience, regretting if what he did hurt one of his fellow men, but regardless of whom his decision hurt, including himself.

It has been said that a sense of proportion, that is, the ability to differentiate between the essential and the non-essential, determines the success or failure of one in any direction, and this is probably true. This sense of proportion was possessed by Ennion Williams to a marked degree. If a matter was really essential, however trivial it might appear to be, it must be attended to regardless of time or trouble. If it was not essential, or did not appear to him to be, regardless of the advocate of the measure, it just wasn't done. This zealous attention to details played no small part in the successful working of the State Health Department.

If one trait of Ennion Williams's character may be stressed above all others, that trait was devotion—devotion to his family, devotion to his friends, and—yes—above all other things and persons—devotion to the cause so early and constantly espoused—the health of the people of Virginia. He never loved Caesar less, but he loved Rome above all else.

The power to inspire to strenuous effort is the one characteristic of a great leader, and this Ennion Williams possessed in an extreme measure. No one ever worked with him or under his direction who did not feel this subtle influence; and this extended to all with whom he came in contact. And closely akin to this trait is that of being an advocate. When he quietly, persistently and firmly advocated a measure which he thought necessary or advisable for the success or betterment of the work in hand, the resulting breaking down of opposition was worthy of the term diplomacy. When he issued his orders and made his requests his tone was kindly but brooked no opposition, and his loyalty to his cause, his coworkers and his friends could never be questioned. His judgment was usually sound, although at the moment it might have seemed otherwise, and if during the last months of his life this judgment might have failed in its usual accuracy, in some respects, it was due to his failing health, and not to a hardened heart.

To one who has been as close to Ennion Williams as the present writer it is difficult indeed to speak without a display of emotion unbecoming on an occasion such as this. Those who knew him best loved him not for his accomplishments; nor for his self sacrifice; nor even for his devotion to duty and friends.

They loved him for himself. He loved his friends and all the people of Virginia were the friends most beloved by him. His untiring energy did much in the accomplishing of his journey to the goal of the ideal of his youth—the freeing of the people of his state from the tyranny of communicable disease; and so like all idealists, dreamers and visionaries, no matter by what name they are called, he gave himself unstintingly to the cause; sacrificing himself to the end. No one ever saw Ennion Williams when he was not in action. He never stopped for a minute and never rested. Life was too short for him to accomplish all he had set out for himself, and his greatest desire was to die in harness.

And thus passed from the active scene on June 6. 1931, the greatest Virginian of his generation, if true greatness is to be measured as it should, by what one does for his fellow man. And so we may say for him "I have fought the good fight, I have finished the course" and with the satisfaction of a trust well kept, and an unfaltering faith in the final victory of Right and a life lived according to the dictates of conscience I go to "Meet my Pilot face to face."

L. T. R.

The State Board of Health and the Medical Society of Virginia.

The death of Ennion Williams brought to a close an epoch in the history of the State Board of Health in Virginia. For many years, under the leadership of Dr. Williams, there has been built up an organization that has performed signal work in the field of preventive medicine in this state. This organization, assuredly, will carry on the larger program so wel llaid out by Dr. Williams during his years of untiring work. While experience of the past decades will give force and vigor to these workers, the loss of this strong leadership will be felt. Dr. Williams' seasoned judgment will be missed; his insight into difficult problems will be missed; his effective and successful methods of securing supportive legislature enactments for the welfare of public health will be missed; his calm, his poise, his indomitable will to obey, the call of high duty will be missed; his strikingly successful ability to deal with delicate and intricate matters affecting the interests and welfare of his fellow physicians over the State will be missed. These losses to the department of public health; to the people of the State of Virginia; to the profession of medicine in this Commonwealth, will be keenly felt and will be difficult to overcome. In this sense then the work of the state department on preventive medicine is marked by an epochal loss that must mean much to its usefulness and effectiveness.

A new era faces the new administration. This new leadership, however, may be no less successful, no less distinguished, than the one just brought to an untimely close; even, one may dare to say, with added time, this organization under such leadership may perform greater service to the state in the future than has been possible in the past. Much remains to be done; larger fields of service to the people remain unperformed; pathology and infection continue in far too great degree; preventable diseases have a too widespread incidence among the population of the state.

In this call to higher service to the people of Virginia, the Medical Society of Virginia, as representing the doctors of this state, as well as allied branches of practitioners, has an important part to play and a real duty to perform. The State Board of Health, under its new leader, will find in these agencies a sympathetic interest and a cooperative spirit for this common aim. Both organizations may be of help to one another. Each may bring to bear forces of cooperation that may make the work of each more successful and effective.

The strongest arm of the public health department is necessarily the private physician. Laws may be passed; plans may be laid at large expense; programs may be projected covering wide educational efforts; but the full, active, sympathetic goodwill and enthusiastic interest of the private physician in the home is the most important and necessary agent in the hands of the state department in carrying forward the mission of lowering death rate, of preventing communicable diseases, of bringing the people of the state to a better state of well being and good health. It is this large factor of success in prevention of disease that the Medical Society of Virginia has to offer the incoming leadership and commissioner on public health. That fine spirit of cooperation between the doctors of the state and the personnel of the organization of the public health, led by the Commissioner of Health,

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must be continued, and even quickened to a greater degree, by a sympathetic and considerate understanding between these two important agencies, authorized by the state government to maintain the fight for prolongation of life and prevention of disease among the people of Virginia.

President's Message

Mental Health to be the Leading Topic of Our Next Annual Meeting.

A Discussion of the Intimate Relationships Between Mental and Physical Health

It is with pleasure that the announcement is made that the Committee on Program for the Medical Society of Virginia has decided that the topic for special discussion for its annual meeting at Roanoke, will be: "Mental Hygiene in its Relations to General Medicine and to the Public."

This is probably one of the most dominant subjects before the profession at this time, and it is almost inexplicable that it has not earlier aroused the attention, and energized the activities of the profession; consequently, this discussion should be of the greatest possible interest to all the members. To make a complete diagnosis, as well as prognosis, of any case that is not acute in its manifestations is almost impossible without a thorough study of the mental element in the person and life of the patient.

It is not usually known, but according to Dr. H. Douglas Singer, of the Illinois Medical School, it is a fact that the family physician is more often consulted for mental and functional disorders than for all other ailments combined. There is a reciprocity of interest between the psychiatrist and the general practitioner in the treatment of physical and mental disorders, and intelligent cooperation will lead to greater success in overcoming the problems of mental deficiency, and solve other tasks confronting the management and treatment of the intellectually subnormal. About 13 per cent of the population of the United States is intellectually subnormal or composed of retarded individuals, who nevertheless may be apparently socially adequate, and the situational factors in these borderline cases must be thoroughly studied so as to be correctly interpreted. If these cases, which are frequently involved in anti-social behavior, are correctly estimated in early life, the results leading to crime and delinquency may be largely averted.

Psychiatry is no longer "the step-sister of Medicine, but a respected member of the family of the medical arts and sciences," and it is our professional duty to recognize such a fact and prepare general practitioners as well as specialists and internists to cultivate a skill and interest in the early recognition of mental disease and personality disorders in children, so that our civilization may be advanced, while at the same time it is protected by full knowledge of all of these associated factors in private and public life.

We have finally arrived at the point when, in making up a definite opinion in most cases, the whole and not a part of the patient in question, must be considered and definitely determined. This modern point of view, always taking into consideration the mental status and tendencies of the patient, will in the future add as much to the full and adequate determination of the patient's present behavioristic attitudes and future outlook on life, as any method of practice that has ever been put in operation.

We welcome this opportunity that will popularize this mode of thought and action, and believe that this discussion will open new fields of investigation and research work for many who have not heretofore considered this subject.

"A large part of the mastery and knowledge in modern times is acquaintance with the sources of information," and this meeting promises much to the intelligent student who may attend, and will give a new meaning to the health ideal of "a sound mind in a sound body," as well as a new understanding of the relationship of the one to the other.

J. Allison Hodges, M. D.,
President, Medical Society of Virginia.

Department of Clinical Education
OF THE MEDICAL SOCIETY OF VIRGINIA

The General Practitioner.

In response to the invitation of the president-elect to share his page in the current issue of the MONTHLY, it occurs to me that since the majority of people are treated by a family physician and likewise, notwithstanding the prophecies of his rapid passing, the majority of physicians are, and probably always will be family advisors, a word relative to the present trend may be not without interest.

As all well know, the drift into the specialties has been strong during the past decade. Manifestly, there has been two chief reasons, the one, the rapid development of medicine has been such that in the specialties competition has been less and remuneration greater. The other has been the apparent narrowing of the field of general practice through preventive medicine.

In addition, doubtless there has been also a falling off of interest in general practice from a cause relative to which little consideration has been given until recently. I refer to the difficulties which the Medical Schools have encountered in planning curricula that fit into both the scientific and practical demands of the times. In the days of the preceptor the student passed from him, his preceptor, to a medical college in which the majority of his teachers did more or less general practice. He now passes directly from the pre-medical college into his medical training under the guidance almost exclusively of specialists, many of whom themselves have had little opportunities to either engage directly in general practice, or to learn first hand of its requirements. Consequently the graduate of today has grown up in an atmosphere of specialism with a rare opportunity to even visit the office of a wide-awake general practitioner or to otherwise come in contact with him. Certainly in making this comment no criticism is intended of medical schools, for like other agencies that have made for progress in medicine they of necessity are in a sense developing by experiment as well as through a well ordered study of the problem.

In the way of progress it would seem that the two most promising plans being tried out are those of certain schools in which arrangements are made with capable men in general practice to use as assistants for a certain length of time members of the senior class prior to graduation. The other is, what would seem to be more promising, the plan of equipping out-patient departments with suites of rooms modeled after those best suited for general practice and the employment part time of properly trained and temperamentally suitable general practitioners, under whose guidance students examine and treat patients in accordance with the best methods of private practice, not omitting a matter of great importance from the economic side, proper accounting practices, brief case records and follow-up of patients in their homes.

The observation that so large a proportion of even well educated men who have in the past gone into general practice and in a few years have tended to lose interest in scientific medicine and to drift, certainly must have its influence upon a student who is casting about and making a decision as to his future. The lack of convenient and practical post-graduate facilities and the proper stimulation to be derived from such contacts has undoubtedly in the past accounted in a large measure for this state of affairs.

However these things may be, most assuredly the type of general practitioner with whom the public was reasonably satisfied a generation ago cannot now survive and one can only speculate as to the type of training and type of man that must evolve. This will be determined in part by the public demand, in part by the greater competition which sooner or later must arise among specialists themselves, largely by such foresight as may be exercised in training undergraduates and likewise in facilities afforded for post-graduate work, both by colleges and by cooperative movements such as that of our own state organization.

For the man in general practice it may turn out that what he has lost in the way of the diminution of infectious diseases may be more than regained, by those who are alert, in taking advantage of the awakening of the public to the importance of treating minor ailments

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and of securing advice that will lead to better general health. There is certainly an increasing appreciation upon the part of the public of a careful physical examination and check up both of the adults and the children of families.

For himself the family advisor will undoubtedly be forced to realize that if he is to provide for his patients modern methods and procedures he must also utilize modern business methods and that he cannot ignore such opportunities as are now being afforded of more frequent and intimate contact with fellow practitioners by joining in the development of post-graduate work that best suits his needs. Certainly he can no longer live an isolated existence.

J. W. Preston, M. D.

Standards.

In presenting to the readers of this Department Dr. Preston's article we feel assured of the thoughtful attention of all who are interested in the subject of Continued Education of Physicians. A careful reading of this brief paper will in most cases give rise to a multitude of thoughts and theories—What is a specialist—When does one become a specialist?—A surgeon?—A diagnostician?

As a profession we are in the infancy of the evolution of standardized medicine. Time was when anyone could declare himself a doctor—time is when anyone can hang out a specialist's sign. There are, of course, numbers of competent and well equipped specialists. There are also number of specialists who generalize and general practitioners who specialize. Doubtless in the course of time specialists will have to qualify as such. We are moving along slowly but upward. In the opinion of many, the general practitioner will survive, and when the records shall be read and the story of those who have scaled the highest peaks of medical achievement shall be written, the general practitioner will be found not in the rear guard of those who minister to man's infirmities.

We trust that the study of this paper will cause others who are interested to contribute short discussions for this Department.

I. C. Harrison, M. D.,
President-Elect and Chairman Department of Clinical Education.

Information

All members of the Medical Society of Virginia are requested to write for any information desired on any subject relative to these Extension Courses in Graduate Medical Education, either to the Executive Secretary, Mr. George W. Eutsler, P. O. Box 707, University, Va., or to the Chairman of the Department.

Proceedings of Societies

The Fauquier County Medical Society

Held its regular meeting on April 30th, at the home of Dr. George H. Davis, in Warrenton, Va., with the president, Dr. Wade C. Payne, presiding. Dr. W. O. Bailey gave a talk on State Medicine and Public Relations; Dr. M. B. Hiden on the subject of reorganization of medical societies in Northern Virginia; and Dr. J. R. Allen spoke on his duties as secretary and on the way communications should be handled. The president appointed Drs. W. O. Bailey and M. B. Hiden to revise the By-Laws of the Society.

A social hour followed the meeting, at which time Dr. and Mrs. Davis served a delicious supper.

Drs. Richard Mason and J. Elwood Knight were hosts for the May meeting of this Society at the home of Dr. Knight in Warrenton. There were sixty-one guests present, of which number twenty-two were physicians. A social hour with light refreshments preceded the business session, at which Dr. Payne presided. Drs. H. Colles Grant, Remington; James B. Smith, Upperville; James L. Stringfellow, Culpeper; and Benjamin L. Hume, Nokesville, were unanimously elected to membership. Drs. Wade C. Payne and George H. Davis were elected delegate and alternate, respectively, to the Roanoke meeting of the State Society. Talks were made by Dr. Richard Mason, Dr. G. Frank Simpson, president of

the Loudoun County Medical Society, Dr. W. O. Bailey, and Dr. J. E. Knight. Both Dr. Simpson, who is chairman of the Committee on Public Relations of the Medical Society of Virginia, and Dr. Bailey, secretary of that committee, spoke on State and Federal Medicine. The Society endorsed these talks and the president appointed Drs. W. G. Trow, Richard Mason and J. E. Knight a Public Relations Committee to assist in carrying out the recommendations made by Drs. Simpson and Bailey. This meeting was followed by a fried chicken supper with dancing for those who could stay longer.

Dr. Wade C. Payne, Haymarket, is president, Dr. J. R. Allen, Marshall, secretary, and Dr. M. B. Hiden, Warrenton, assistant secretary.

Lynchburg and Campbell County Medical Society.

At the meeting of this Society on June 5th, Dr. H. B. Mulholland, of the University of Virginia Medical School, gave an address on the subject of Diabetes. The meeting was well attended and enjoyed by all. At this time Drs. George J. Tompkins and Hunter B. Spencer, were elected delegates, and Drs. Bernard H. Kyle and Ernest G. Scott, alternates to represent the Society at the Roanoke meeting of the State Society. Dr. Don P. Peters is president and Dr. Ernest G. Scott secretary of the Society.

The Amelia County Medical Society,

At its meeting on May 8th, with Dr. J. L. Hamner, Mannboro, presiding, elected Dr. G. Craig Eggleston, Amelia, as president, and re-elected Dr. G. A. Arhart, Amelia, as secretary-treasurer, for the ensuing year. Dr. J. M. Habel was named delegate and Dr. G. A. Arhart alternate from the Society to the Roanoke meeting of the State Society. There was quite a discussion as to State and Federal Medicine as applied to the local societies and also as to the number of cases of insanity reported in Amelia County in the past few years. Dr. Arhart was appointed to look into this last matter and make a report at the June meeting.

The Warwick County Medical Society

Held its last meeting until Fall on May 25th, at which time Dr. W. L. Harris, of Norfolk, presented a paper on "Orthostatic Albuminuria." Drs. H. G. Longaker and J. Warrren Sayre were elected delegate and alternate, respectively, to the Roanoke meeting of the Medical Society of Virginia. The secretary reported that this had been a most successful year and that the programs had been enjoyable and practical. Dr. L. E. Stubbs is president and Dr. Edward L. Alexander secretary of the Society.

The Rockbridge County Medical Society

Met June 11th, with the president, Dr. F. L. Thurman, of Buena Vista, presiding. Dr. H. L. Mitchell, Lexington, is secretary. The speakers at this meeting were Drs. W. P. Jackson, Roanoke, Chairman of the Committee on Child Welfare of the State Society, and Dr. B. B. Bagby, director of the Child Welfare Bureau of the State Department of Health. Twelve members of the society and several visitors were present. The purpose of the talks given was to interest and inform the doctors concerning the program of the Rockbridge County health unit with children who will enter school next Fall. Dr. Jackson stressed the importance of periodic health examinations for school children and adults. It was stated that the Medical Society of Virginia believes that the family physician who can follow the development of the child should give the examination rather than the public health doctor. Dr. Bagby gave statistics showing the number of children who had to repeat grades, much of which it is believed could be avoided if the children are in good health and said that health education should start with the beginner and that the public should be educated to be willing to pay the family doctor for health supervision.

The Norfolk County Medical Society,

At its regular meeting on June 1st, elected the following officers for the ensuing year: President, Dr. H. L. Myers, Norfolk; vice-president, Dr. Joseph D. Collins, Portsmouth; and secretary-treasurer, Dr. Lockburn B. Scott (re-elected), Norfolk. Delegates and alternates to the Roanoke meeting of the State Society were also elected, as follows: *Delegates*, Drs. Walter B. Martin, N. G. Wilson, H. L. Myers, Julian L. Rawls, and P. St. L. Moncure; *alternates*, Drs. Franklin D. Wilson, Joseph D. Collins, C. Lydon Harrell, W. P. McDowell, and C. J. Andrews.

Following the business meeting, the Society heard a fine address from Dr. B. R. Kirklin, chief of the Roentgenological staff of the Mayo

Clinic, Rochester, Minn. The subject of the address was "Gastric and Duodenal Ulcers," and much valuable information was given on the roentgenographical characteristics of these lesions.

The Medical Association of the Valley of Virginia

Held its semi-annual meeting in Clifton Forge, Va., on May 28th, with a good attendance. Dr. Guy R. Fisher, Staunton, is president, and Dr. Wm. P. Gilmer, Clifton Forge, secretary. Interesting papers were read by several members and Dr. Burton Lee, of New York, invited guest. There was also a talk on State and Federal Medicine by Drs. G. F. Simpson, Alex. F. Robertson, and W. O. Bailey of the Committee on Public Relations of the State Society. It was decided to hold the next meeting in Winchester on October 29th.

The Southside Virginia Medical Association

Met at South Hill, on June 9th, with about thirty-five members in attendance.

A splendid scientific program had been prepared for the meeting and all papers were freely discussed.

Several new members were elected. The next meeting will be held at Piedmont Sanatorium, Burkeville, Va., on the second Tuesday in September.

At the close of the program, the visiting doctors were given a delightful dinner at hotel Nordan.

Dr. Ruth Mason, Petersburg, is president of this association and Dr. R. L. Raiford, Franklin, is secretary.

News Notes

Finals of Virginia's Medical Schools.

MEDICAL COLLEGE OF VIRGINIA

The ninety-third commencement exercises of the Medical College of Virginia were held in Richmond from May 30th to June 2nd, inclusive, and were preceded by two days of post-graduate clinics held in cooperation with the Department of Clinical Education of the Medical Society of Virginia. Student Night on Saturday, May 30th, took the form of a play, "Take My Advice," which was presented in the Auditorium of the Woman's Club. Rev. Charles W. Sheerin, of the Grace and Holy Trinity Church, preached the baccalaureate sermon the next day.

Monday, June 1st, was observed as Alumni Day and many distinguished alumni of the College were present for this occasion. Following the morning session there was a buffet luncheon at Cabaniss Hall, for the Board of Visitors, alumni and senior classes. In the afternoon, there was a meeting of the Board of Visitors while members of the faculty and alumni had a golf tournament in which Dr. John Bell Williams, of the alumni, won first place and Dr. Phil Jones placed second. At the dinner meeting at Commonwealth Club, that evening which was attended by approximately 150 members, Dr. J. M. Northington, Charlotte, N. C., was elected president. Dr. F. H. Beadles, Richmond, was continued as treasurer, and Dr. C. L. Outland, also of Richmond, as secretary.

At the final exercises of the College, held at the Mosque Theatre on Tuesday afternoon, Junius P. Fishburn, of Roanoke, Va., President of the *Times-World* Corporation, was the principal speaker, and diplomas were awarded to one hundred and seventy-six students, ninety-four of which were to graduates in medicines, twenty-one in dentistry, thirty-four in nursing, twenty-four in pharmacy and three for bachelor of science in pharmacy. On this occasion, two honorary degrees were conferred, that of Doctor of Science to Colonel William L. Keller, chief of the surgical service at the Walter Reed Hospital,Washington, D. C., an alumnus of the College, and that of graduate in pharmacy on Roy Childrey, associate professor of practical pharmacy in the College. Following these exercises, there was a tea at Cabaniss Hall in honor of the senior class of Nursing, and the annual reception and dance for the graduating class at Commonwealth Club that evening marked the conclusion of the commencement features.

The following is a list of the graduates in the department of medicine with hospital appointments:

MEMORIAL HOSPITAL, RICHMOND, VA.—Drs. Charles Henry Armentrout, Goshen; Drury

Branch Armistead, Farmville; Leslie Betts Copenhaver, Bristol; Robert Bagley Cralle, Jr., Farmville; John Newton Dunn, Samos; George Washington Holmes, Winston-Salem, N. C.; Francis Henderson Mayfield, Norlina, N. C.; Tom Hall Mitchell, Mobile, Ala.; John Carlysle Neale, Jr., Lanesville; Thomas Edgar Painter, Pulaski; Edward Cotton Rawls, Franklin; Henry Cannon Spalding, Richmond; and Howard Montfort Starling, Hubert, N. C.

JOHNSTON-WILLIS HOSPITAL, RICHMOND, VA.—Drs. Reynoldson Duke Butterworth, Butterworth; Walter Eugene Daniel, Jr., Weldon, N. C.; William Beckwith Fuqua, Jr., Radford; and John Bruce James, Danville.

ST. LUKE'S HOSPITAL, RICHMOND, VA.—Dr. John Elwood Collier, Linden, N. C.

STUART CIRCLE HOSPITAL, RICHMOND, VA.—Drs. Oscar William Cranz, Charleston, W. Va.; George Gay, III, Richmond; and William Hume Hoskins, Dunnsville.

ST. ELIZABETH'S HOSPITAL, RICHMOND, VA.—Dr. Paul Lawrence Dent, South Roanoke.

GRACE HOSPITAL, RICHMOND, VA.—Dr. Wyatt Earle Roye, Richmond.

JOHNSTON MEMORIAL HOSPITAL, ABINGDON, VA.—Drs. Hugh Benton Brown, Jr., Emory; and Cyrus Leslie Walton, Jacksonville, N. C.

ST. VINCENT'S HOSPITAL, NORFOLK, VA.—Drs. Harold Irvin Amory, Hampton; Ira Lionel Hancock, Jr., Richmond; Carl William LaFratta, Richmond; and Edward Marvin Mann, Elizabeth City, N. C.

U. S. MARINE HOSPITAL, NORFOLK, VA.—Drs. Tyler Robert Boling, Jr., Burkes Garden; Grant Roosevelt Elliott, Richmond; and Otis Gardner King, Arcola, N. C.

NORFOLK PROTESTANT HOSPITAL, NORFOLK, VA.—Drs. Bob Lewis Field, Fredericksburg; Dominick Jeremiah Foglia, Brooklyn, N. Y.; James Clarence LeFon, Glen Allen; and George Howard Salomonsky, Richmond.

ROANOKE HOSPITAL, ROANOKE, VA. — Dr. Charles Oliver Moody, Norfolk.

SOUTH BOSTON HOSPITAL, SOUTH BOSTON, VA.—Dr. Frank Wilson Hewlett, Richmond.

NORWEGIAN HOSPITAL, BROOKLYN, N. Y.—Dr. Antonio Acosta-Velarde, San Juan, Porto Rico.

CHRISTIAN HOSPITAL, ST. LOIUS, MO.—Dr. Jay Bigelow Bailey, Davy, W. Va.

SAN DIEGO COUNTY GENERAL HOSPITAL, SAN DIEGO, CALIF.—Dr. William Heath Ball, Raleigh, N. C.

UNION MEMORIAL HOSPITAL, BALTIMORE, MD.—Dr. Lawrence Lincoln Beall, Durham, N. C.

GEORGIA BAPTIST HOSPITAL, ATLANTA, GA.—Dr. Jackson Murrell Bowling, Durham, N. C.

BLUEFIELD SANATORIUM, BLUEFIELD, W. VA.—Dr. Paul Jette Bundy, Lebanon.

WISCONSIN GENERAL HOSPITAL, MADISON, WIS.—Drs. Robert Carlyle Bunts, Pulaski; and Edward Dewey Hudson, Roanoke.

ST. ELIZABETH'S HOSPITAL, WASHINGTON, D. C.—Drs. E. Gaine Cannon, Pickens, S. C.; and Robert Orrus Glenn, Sugar Grove, N. C.

CENTRAL DISPENSARY AND EMERGENCY HOSPITAL, WASHINGTON, D. C.—Dr. Julius Caplan, Portsmouth.

HAZELTON STATE HOSPITAL, HAZELTON, PA.—Drs. Oscar Winfred Carper, New Castle; and James Alfred Gooch, Richmond.

CONENAUGH VALLEY MEMORIAL HOSPITAL, JOHNSTOWN, PA.—Dr. Meyer Cohen, Richmond.

ST. LAWRENCE HOSPITAL, OGDENBURG, N. Y.—Dr. Frank Philip Coleman, Collierstown.

SOUTHERN PACIFIC HOSPITAL, SAN FRANCISCO, CALIF.—Dr. Fred Glenn DeBusk, Saltville.

ARNOT-OGDEN MEMORIAL HOSPITAL, ELMIRA, N. Y.—Dr. Duke Arthur Dent, Charleston, W. Va.

BRYN MAWR HOSPITAL, BRYN MAWR, PA.—Dr. James Murray Ellzey, Jr., Philadelphia, Pa.

ELLEN FITZGERALD HOSPITAL, MONROE, N. C.—Dr. James Grady Faulk, Unionville, N. C.

NORTH CAROLINA BAPTIST HOSPITAL, WINSTON-SALEM, N. C.—Dr. Olin Grady Fritz, Welcome, N. C.

U. S. NAVY—Dr. James Elijah Fulghum, Richmond.

LEBANON HOSPITAL, NEW YORK, N. Y.—Dr. Victor Goodside, Bronx, N. Y.

HINTON HOSPITAL, HINTON, W. VA.—Dr. Roy Overt Halloran, Hinton, W. Va.

PRESBYTERIAN HOSPITAL, PITTSBURGH, PA.—Dr. Sylvester Sutton Hamilton, Jr., Punxsutawney, Pa.

SANTA BARBARA COTTAGE HOSPITAL, SANTA BARBARA, CALIF.—Dr. Thomas Moore Hearn, Jr., Richmond.

CUMBERLAND HOSPITAL, BROOKLYN, N. Y.—Drs. Belmont Augustus Helsabeck, Rural Hall, N. C.; and William Garland Talmadge, Petersburg.

Utica State Hospital, Utica, N. Y.—Dr. Cyril James Crozier Kennedy, Richmond.

Charleston General Hospital, Charleston, W. Va.—Drs. Seward William Jabaut, Richmond; Clarence Emerson Lewis, Charleston, W. Va.; Curtis Garland Power, Martinsburg, W. Va.; and John Nathan Reeves, Bridgewater.

Memorial Hospital, Philadelphia, Pa.—Dr. Samuel Meyer Klein, Richmond.

Asheville Mission Hospital, Asheville, N. C.—Dr. Newton Faris Lancaster, Hendersonville, N. C.

Unity Hospital, Brooklyn, N. Y.—Dr. Hermann Joseph Lukeman, Saltville.

Boston City Hospital, Boston, Mass.—Dr. Jesse McCall, Tazewell.

Wilkes-Barre General Hospital, Wilkes-Barre, Pa.—Dr. Edward Henry Major, Morgantown, W. Va.

Wheeling Hospital, Wheeling, W. Va.—Drs. Joseph Alexander Markley, Morgantown, W. Va.; and John Herman Murphy, Wheeling, W. Va.

Chesapeake and Ohio Hospital, Huntington, W. Va.—Dr. Herman Edwin Martin, Christiansburg.

James Walker Memorial Hospital, Wilmington, N. C.—Drs. Laurie Walker Moore, Marshallberg, N. C.; and Victor Thaddeus Sullivan, Wilmington, N. C.

City Memorial Hospital, Winston-Salem, N. C.—Drs. William King Newton, Fountain, N. C.; John Montgomery Preston, Richmond; and Albertus Ula Stroupe, Jr., Mt. Holly, N. C.

Holy Name Hospital, Teanneck, N. J.—Dr. Yates Shuford Palmer, Lawndale, N. C.

Lennox Hill Hospital, New York, N. Y.—Dr. Thomas Blackburn Payne, Fredericksburg.

Gallingher Municipal Hospital, Washington, D. C.—Drs. Fred Taylor Renick, Calloway; and Clifton Ross Titus, Lucketts.

New Rochelle Hospital, New Rochelle, N. Y.—Dr. Adolfo Sanchez, Mayaguez, Porto Rico.

Hospital Santo Tomas, Panama City, Republic Panama—Dr. Julio Jimenez Sierra, Panama City, Republic of Panama.

St. Michael's Hospital, Newark, N. J.—Dr. Frank Smith, Oxford, N. C.

Hillman Hospital, Birmingham, Ala.—Dr. Thomas Griffin Synnott, Embry, Miss.

Other graduates in medicine are:

Dr. Jacob G. Jantz, Richmond.

Dr. Harold Wilbur Miller, Woodstock.

Dr. William Howard Riheldaffer, Fairmont, W. Va.

University of Virginia

As usual the Department of Medicine held its final exercises in conjunction with those of other departments of the University of Virginia. Before the baccalaureate sermon formally opened the exercises incident to the graduation of the 1931 classes, an informal start was made with dances which were held in the Memorial Gymnasium on the evenings of June 12th and 13th. Dr. Reinhold Niebuhr, of the Union Theological Seminary of New York, preached the sermon on Sunday, June 14th. That evening, according to custom, there was an organ recital in the McIntire Amphitheatre.

Monday was alumni day. A business meeting of the association was held during the morning, followed by a luncheon tendered the graduates. Dr. George H. Denny, president of the University of Alabama and an alumnus of the class of '97, welcomed members of the graduating class into the alumni association. The alumni ball was danced that evening.

On June 16th, a memorial to Dr. Edwin A. Alderman was presented by the graduates, as their class gift. Preceding the final exercises in the afternoon, there was a band concert on the lawn by the Charlottesville Municipal band. Following the exercises at which the diplomas were awarded the graduates in the various departments, an address was made by the Honorable John Wood Fishburne. Immediately after this, there was a reception in Madison Hall for the graduates, their relatives and guests, with the final ball starting at 10 P. M. that evening.

The following is a list of the forty-seven graduates from the Department of Medicine, with hospital appointments:

University of Virginia, University, Va.—Drs. John Jacquelin Ambler, Richmond; William Ambrose Brown, Jr., Portsmouth; Alexander Gordon Gilliam, Petersburg; Angus Hinson, Abbeville, Ala.; Joseph William Houck, Harrisonburg; Arthur Mazyck, Jr., Darlington, S. C.; Lodwick Sterrett Meriweather, Lynchburg; William Henry

Parker, Covington; and Jack Spencer, Lynchburg.

Elizabeth Buxton Hospital, Newport News, Va.—Drs. Dewey Loring Anderson; and Bliss King Weems, Greeneville, Tenn.

Memorial Hospital, Richmond, Va. — Dr. Dawson Edward Watkins, Jr., Fork Union.

St. Elizabeth's Hospital, Richmond, Va.—Dr. Carlyle Gregory Flake, Richmond.

Western State Hospital, Staunton, Va.—Dr. Emilie Caroline Strohman, Orangeburg, S. C.

Church Home and Infirmary, Baltimore, Md.—Drs. Howard Hicks Ashbury, Baltimore, Md.; Albert Chesterfield Stutsman, Roanoke; and Peter Allen Haley, II, Charleston, W. Va.

Iowa Methodist Hospital, Des Moines, Iowa —Drs. Barloe Bailey, Saltville; and John Thomas James, Galax.

Baltimore City Hospital, Baltimore, Md.—Drs. Philip Bress, Norfolk; Samuel Howard Garst, Blountville, Tenn.; and Asa Elmore Seeds, Waverly.

Charity Hospital, New Orleans, La.—Drs. Charles Crawford Canada, Grottoes; and Charles Fuller Fincheloe, Jr., East Falls Church.

Johns Hopkins Hospital, Baltimore, Md.—Dr. George Daniel Capaccio, Brooklyn, N. Y.

Lakeside Hospital, Cleveland, Ohio—Dr. William Morgan Chew, Waynesboro.

Harper Hospital, Detroit, Mich.—Dr. John Bradley Cousar, Bishopville, S. C.

The Mason Clinic, Seattle, Wash.—Drs. Adam Tyree Finch, Jr., Chase City; Walter Lee Thomas, Jr., Lynchburg; and William Massie Whitehead, Lovingston.

Peter Bent Brigham Hospital, Boston, Mass.—Dr. Robert Earle Glendy, Dublin.

Union Memorial Hospital, Baltimore, Md.—Drs. Meyer Goldstein, Portsmouth; and Samuel Butler Grimes, Baltimore, Md.

Orange Memorial Hospital, Orange, N. J.—Dr. Winthrop Huntington Hall, Cranford, N. J.

Tampa Municipal Hospital, Tampa, Fla.—Dr. Ruth Schwarz Hart, Winter Park, Fla.

U. S. Public Health Service—Dr. Clifton Keck Himmelsbach, Drexel Hill, Pa.

Duke University, Durham, N. C.—Dr. Harry Gilman Hudnall, Covington.

Lincoln Hospital, New York, N. Y.—Dr. Herman Michel Levine, New York, N. Y.

New York Post-Graduate Hospital, New York, N. Y.—Dr. Thomas Preston McKee, Saltville.

Massachusetts General Hospital, Boston, Mass.—Dr. Margaret Elizabeth Moriarty, Newton, Mass.

St. Vincent's Hospital, New York, N. Y.—Dr. Timothy John Nash, Jr., New York, N. Y.

University Hospital, Iowa City, Iowa.—Dr. Eldridge Cook Simmons, Petersburg.

Garfield Memorial Hospital, Washington, D. C.—Dr. Melville Dwight Smith, Johnson City, Tenn.

Cumberland Hospital, Brooklyn, N. Y.—Dr. Ben Steingold, Norfolk.

Instructor in Pathology, Medical Department, University of Virginia, University, Va.—Dr. John Hamilton Soberer, Richmond.

Other graduates of this class are:
Dr. Harry Raphael Kelly, Union City, N. J.
Dr. Weldon Merritt Harloe, Matoaka, W. Va.

Arrangements Progressing for Roanoke Meeting of State Society.

Ample space will be available for the scientific and commercial exhibits at the sixty-second annual meeting. The Patrick Henry Hotel, which is the official headquarters of the state meeting, October 6th to 8th, has reserved a large space on the mezzanine and exhibitors are urged to communicate with the proper persons in order that spaces may be assigned early.

The scientific exhibit will be given an outstanding place and the local chairman is anxious for the number of exhibits to be large.

Those desiring booths for commercial exhibits should communicate with Dr. A. P. Jones. Dr. W. P. Jackson is chairman of the local Scientific Exhibit Committee.

While Dr. H. H. Trout, chairman of the committee on hotels, states that Roanoke will be able to care comfortably for all who attend our meeting, he urges that members make reservations promptly. Names of hotels with rates were published in the June issue of the Monthly. It is suggested that any one wishing to make reservations should write direct to Mr. Fay Thomas, manager of the Patrick Henry Hotel, stating the kind of accommodations wanted, though Dr. Trout will be glad

to help in any way possible. In this connection, it might be well to state that through inadvertence, Dr. Trout's name was given as general chairman in the last issue of the MONTHLY. The general chiarman is Dr. W. L. Powell.

Married.

Dr. William Lett Harris and Mrs. Gertrude E. Burgess, both of Norfolk, Va., in New York City, June 20th.

Dr. Claude C. Coleman, Richmond, Va., and Mrs. Ruth Threadcraft Putney, of Middlesex County, Va., June 16th.

Dr. Frank E. Handy, Appalachia, Va., and Miss Ruth Harrison Smith, of Big Stone Gap, Va., June 17th.

Dr. Robert Tunstall Peirce, Jr., Newport News, Va., of the class of '29, University of Virginia, and Miss Ruth Tinsley Hurt, Kenbridge, Va., June 11th. Dr. Peirce interned at St. Elizabeth's Hospital, Richmond, and is now pursuing a special course at John Hopkins Hospital, Baltimore.

Dr. Grant R. Elliott, of the class of '31, Medical College of Virginia, and Miss Beatrice V. Holland, of Windsor, Va., June 6th. After July the 1st, they will be at home in Norfolk, Va., where Dr. Elliott will be stationed at the U. S. Marine Hospital.

Dr. Clifton Keck Himmelsbach, Drexel Hill, Pa., of the class of '31, University of Virginia, and Miss Virginia Martin, University, Va., recently.

Dr. Oscar William Cranz, of the class of '31, Medical College of Virginia, and Miss Flora Elizabeth Jett, of Reedville, Va., June 4th. They will make their home in Richmond, where Dr. Cranz has been appointed to an internship at Stuart Circle Hospital.

Dr. Cyril James Crozier Kennedy, of the class of '31, Medical College of Virginia, and Miss Edna Rose Wright, Blackstone, Va., recently. After July 1st, they will make their home in Utica, N. Y., where Dr. Kennedy will be stationed at the Utica State Hospital.

Dr. Israel Felman, Pittsburgh, Pa., and Miss Anne Clayman, Richmond, Va., in Washington, D. C., June 14th. Dr. Felman is an alumnus of the University of Virginia in the class of '27.

Dr. Samuel Byron Pope, Jr., Norfolk, and Miss Emma Lucile Ryerson, Richmond, June 24th. Dr. Pope graduated from Medical College of Virginia last year and has just completed an internship at Norfolk Protestant Hospital.

Revolutionary War Physician Honored.

A bronze tablet was unveiled in Alexandria, Va., on June 14th, in honor of Dr. William Brown, a Revolutionary War physician. The ceremonies took place at the old home of Dr. Brown and honored also his grandson of the fourth generation, Lt. Wilmarth Brown, who was killed in the line of duty while in France during the World War. The exercises were held on Lt. Brown's birthday and the tablet was draped with the flag which covered his casket when brought to Arlington Cemetery.

Dr. Brown was physician general and director of hospitals, middle department of the Continental Army, and was physician for nearly twenty years to the Washington family. The tablet was unveiled by Alexander Gustavus Brown, III, of Richmond, a direct descendant of Dr. Brown and a son of Dr. Alexander G. Brown, Jr., of this city. Addresses were made by Surgeon General Robert U. Patterson of the Army and Judge Josiah Van Orsdel, past president, Sons of the American Revolution. Dr. J. Allison Hodges, president of the Medical Society of Virginia, was prevented from being present by illness, but his address was read by Dr. Llewellyn Powell, of Alexandria.

The inscription on the tablet, which was prepared by the War Department, is as follows:

Residence
of
GENERAL WILLIAM BROWN, M. D.
Born 1748. Died 1792
Physician General and Director of Hospitals.
Middle Department, Continental Army.
Charter Member, Society of Cincinnati.
Author of First American Pharmacopoea.
President of Board of Trustees of Alexandria
Academy, At General Washington's request.
Personal Physician for Many Years and Intimate
Friend of General George Washington,
Who Visited in this House.
Tablet erected in 1931 Ceremonies Conducted By
By His Descendants. The Washington Society.
Inscription by War Department. June 14, 1931.

Following the exercises, the home was opened by the present owners and the public allowed to inspect it. Nine windows of the house which have been boarded up since the Civil War, when they were closed on account of a glass tax, will be opened in the near future.

New Crippled Children's Hospital.

The new $300,000 Wisconsin Orthopedic Hospital at Madison is to be opened early this coming summer, according to a report from Wisconsin. It will have a solarium, open sun porch, playroom, and rooms for occupational therapy. One of the most sensible ideas carried out in this hospital is the reservation of the ground floor for patients who are able to get out of doors. The building has a capacity of 113 beds, which will make hospital care available to many crippled children for whom facilities heretofore have been lacking.

Third Pan American Medical Congress.

The U. S. Public Health Service announces that the Third Pan American Medical Congress will be held in the City of Mexico, July 26 to 31, 1931. This Congress is being held under the auspices of the Department of Public Health of the Mexican Government. The U. S. State Department has decided that our Government will participate in this Third Pan American Medical Congress and has designated several American physicians as delegates on the part of the United States to this Congress.

For further information, address Dr. Francisco de P. Miranda, Secretary of the Congress Committee of the III Pan American Medical Congress, Departmento de Salubridad, Mexico, D. F.

University of Virginia News.

Dr. Allen Fiske Voshell, Associate Professor of Orthopedic Surgery, has accepted the Professorship of Orthopedics in the Medical School of the University of Maryland. He will assume his new duties at the beginning of next session. His successor at the University of Virginia has not yet been appointed.

Dr. Vincent Archer read a paper on "Roentgen Diagnosis of Neoplastic Disease" before the Post-Graduate Medical Society of Southern Virginia at Petersburg on May 19th.

At the meeting of the Gastro-Enterological Section of the American Medical Association in Philadelphia on June 10th, Drs. Vincent Archer and C. B. Morton presented a paper on "Ascariasis: Clinical and Roentgenological Considerations."

On May 19th Dr. Edwin P. Lehman spoke on "The Diagnosis of Carcinoma of the Large Bowel" before the Clinical Meeting of the physicians of the Fourth Councilor District, Medical Society of Virginia, held at Petersburg in conjunction with the Post-Graduate Medical Society of Southern Virginia and the Department of Clinical Education, Medical Society of Virginia.

Dr. D. C. Smith read a paper on "Jugular Compression, an Adjunct in the Treatment of Syphilis of the Central Nervous System" before the American Dermatological Society which met in Toronto, Canada, from June 15th to 17th.

The following members of the Medical Faculty attended the meetings of the American Medical Association in Philadelphia from June 9th to 12th: Drs. Neff, Royster, Wilson, Morton, Maxcy, Swineford, Woodward, and Smith.

Dr. J. H. Neff attended the meetings of the American Association of Genito-Urinary Surgery at Buck Hill Falls Inn, Pennsylvania on June 4th. He presented a paper on "Massive Hemorrhagic Cyst in a Wilms' Tumor of the Kidney in an Adult."

At the Final Exercises on June 16th, forty-seven students were graduated with the degree of Doctor of Medicine.

Medical College of Virginia News.

The Medical College of Virginia announces the following additions to the faculty for the year 1931-32: Dr. C. H. Beach, instructor in first aid; Dr. A. H. Bell, assistant in surgery; Dr. Meade S. Brent, instructor in nervous and mental diseases; Dr. A. N. Chaffin, assistant in surgery; Dr. W. A. Farmer, assistant in surgery; Dr. John R. Gill, instructor in nervous and mental diseases; Dr. J. B. Graham, instructor in surgery; Dr. H. C. Henry, associate in nervous and mental diseases; Dr. R. C. Hoge, instructor in surgery; Dr. Theodore Kohn, assistant in medicine; Miss Alis Loehr, assistant in biochemistry; Dr. R. Angus Nichols, Jr., instructor in surgery; Dr. H. M. Richardson, instructor in gynecology; Dr. E. H. Williams, assistant in pediatrics; and Dr. J. N. Williams, instructor in nervous and mental diseases.

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The following promotions of faculty members are also noted: Dr. W. P. Barnes, from instructor to associate in surgery; Dr. W. B. Blanton, from assistant professor to associate professor of medicine; Dr. R. H. Courtney, from associate in to assistant professor of ophthalmology; Dr. D. S. Daniel, from instructor to associate in surgery; Dr. B. H. Gray, from associate professor of obstetrics to professor of clinical obstetrics; Dr. Webb B. Gurley, from associate in to assistant professor of operative dentistry; Dr. I. T. Hardy, from assistant in operative dentistry to instructor in exodontia and operative dentistry; Dr. W. H. Higgins, from associate professor of medicine to professor of clinical medicine; Dr. John S. Horsley, Jr., from associate in to assistant professor of surgery; Dr. J. G. Lyerly, from associate in to assistant professor of neurological surgery; Dr. Harry Lyons, to professor of periodontia; Dr. W. A. Ratcliffe, from assistant in to instructor in operative dentistry; Dr. A. C. Sinton, from associate in to assistant professor of gynecology; Dr. J. H. Smith, from associate professor of medicine to professor of clinical medicine; Dr. G. H. Snead, from instructor to associate in otolaryngology; Dr. W. R. Southward, from assistant to instructor in surgery; Dr. M. G. Swenson, from associate professor to professor of prosthetic dentistry; Dr. R. W. Vaughan, from instructor to associate in otolaryngology; Dr. E. W. Wallerstein, from associate in to assistant professor of otolaryngology; Dr. H. Hudnall Ware, Jr., from associate in to assistant professor of obstetrics; Dr. B. W. Wilkinson, from assistant to instructor in surgery; and Dr. R. A. Williams, from assistant to instructor in prosthetic dentistry.

Dr. Fred J. Wampler, professor of preventive medicine at the Medical College of Virginia, who has been in India on leave during the academic year now closing, has sailed for this country and will resume his duties at the college in September. Dr. Wampler sailed from Calcutta on May 1st and is expected to arrive in San Francisco on June 17th.

The inauguration at the Medical College of Virginia of a special obstetrical delivery service intended primarily for the benefit of persons of moderate means has been announced. The proposed service will be in charge of Dr. H. Hudnall Ware, Jr., of the college faculty. The service will undertake to provide for seventy-two hours of hospital care for mother and child and will offer the regular obstetrical staff's services. After care in the home will also be given when necessary.

Post-graduate clinics for practicing physicians were held at the Medical College of Virginia on May 29th and 30th in cooperation with the Department of Clinical Education of the Medical Society of Virginia. These were well attended.

Post-graduate clinics for negro practitioners were given at the St. Philip Hospital by the Medical College of Virginia June 15th through June 27th. The purpose of the clinic was to give intensive instruction for a two weeks' period to negro physicians, primarily from Virginia, in the fields of medicine, pediatrics, obstetrics and surgery, as related to general practice. The clinic opened with twenty-one in attendance.

The out-patient department of the Medical College of Virginia had the busiest May in the history of its work last month. There were 3,893 visits made to the clinic during the month; the average number of patient visits per day was 156, of which number 42 per cent were white patients and 58 per cent negroes.

The St. Philip Hospital school of nursing dormitory. a separate unit of the Medical College of Virginia for negro nurses, is now nearing completion and is expected to be ready for occupancy by August 1st. This building is being built just across the street from the St. Philip Hospital, operated exclusively for negro patients.

At the commencement exercises of the Medical College of Virginia this year, 176 graduates were awarded diplomas in the four schools of the college, medicine, dentistry, pharmacy, and nursing. Of this number ninety-four received the degree of doctor of medicine. Mr. Junius P. Fishburn, president of the *Times-World* Corporation of Roanoke, gave the commencement address. Two honorary degrees were awarded, that of doctor of science to Dr. William L. Keller, of Washington, D. C., and that of graduate in phar-

macy to Mr. Roy Childrey, of Richmond, Va., a member of the faculty of the school of pharmacy.

News Notes from Duke Hospital and Medical School.

The spring quarter of the Duke University School of Medicine ended June 13th and the summer quarter commenced June 22nd. For the summer quarter, twenty-nine students registered in the second year class, six in the junior and three in the senior class. Two of the second-year students will take work during the summer quarter at the University of Cambridge, Cambridge, England, and the Royal College of Surgeons, Edinburgh, Scotland. Four of the senior students will spend the summer quarter at Rotunda Hospital, Dublin, Ireland, and the National Hospital, Queen Square, London, England.

On June 16th, sixteen students of the first-class in the School of Nursing, who had creditably finished their six months' preliminary course, received their caps at the morning exercises in the Chapel. Following the capping program, they were photographed outside the entrance of the hospital.

On May 25th, Cabel Ward (surgery) was opened for patients, which increased the number of beds available for patients to 254.

Dr. Horsley Honored.

At the commencement exercises of the University of Richmond, this year, Dr. J. Shelton Horsley, Richmond, Va., was awarded the honorary degree of LL.D., in recognition of his contributions to the science of surgery.

Dr. Blanton Also Honored.

Dr. Charles Armistead Blanton, Richmond, Va., was also the recipient of the honorary degree of LL.D. from Hampden-Sidney College, this year, in recognition of his great service to that institution.

The American Medical Association

Held its meeting in Philadelphia, June 9th to 12th, under the presidence of Dr. William Gerry Morgan, of Washington, D. C. At this time, Dr. E. Starr Judd, of Rochester, Minn., succeeded to the presidency. This was a splendid meeting with an attendance of over 7,000, at least 150 of these being from Virginia.

The scientific exhibits were excellent. Among these was one by Dr. W. Ambrose McGee, of Richmond, Va., on whooping cough. Some of the other attractive exhibits were those showing growing tissue with the microscope, and showing a late post mortem of a girl who died five years ago from the effects of swallowing radium while painting clocks and watches. There was still enough radium in the bone to show in the photograph.

An historical exhibit which should be of especial interest to Virginians was one by Dr. Russell Haden, now with Dr. Crile at Cleveland, but formerly professor of medicine at the University of Kansas. This included an item which showed that Dr. R. H. Lemmon, father of Dr. Robert Lemmon who is surgeon at V. M. I., had an interesting article on blood counts which appeared in the February, 1874, issue of the VIRGINIA MEDICAL MONTHLY. Dr. Haden, himself originally from Virginia, said that this was the first article published on this subject in America.

Altogether, this was a splendid meeting. New Orleans was selected as the 1932 place of meeting and Dr. E. H. Cary, of Dallas, Texas, was unanimously elected president-elect.

Shriners' Hospital for Crippled Children in Honolulu Busy.

Since the opening last November of the new Shriners' Hospital for crippled children in Honolulu, 1,347 children have been admitted for treatment and discharged, reports a recent number of the *American Journal of Diseases of Children.*

Re-Appointed Member of State Health Board.

Dr. Lawrence T. Royster, University, Va., has just been re-appointed by Governor Pollard as a member of the Virginia State Board of Health for a period of seven years.

The West Virginia State Medical Association

Held a most excellent meeting, with a large attendance, in Clarksburg, in May, under the presidency of Dr. C. H. Maxwell, of Morgantown. It was decided to hold the 1932 meeting in Parkersburg. Dr. Albert H. Hoge, Bluefield, was elected president, and Mr. Joe W. Savage, Charleston, was re-elected executive secretary.

Pennsylvania's Rural Health Buses.

The Pennsylvania Department of Health, for six successive years, has sent to the rural sections of the State, motor cars fully equipped for the health examination of infants and young children. Last summer, reports the State's Bureau of Child Health, it sent two

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cars to certain counties in the eastern part of the State, each car having a staff of two physicians, two dental hygienists, and two nurses. The cars were driven by medical students specially trained to give vision tests to five and six year old children. Over 8,000 children were examined, and 3,426 were referred for treatment to the family physician. Between 6,000 and 7,000 children had their teeth cleaned, and over 4,000 were recommended for treatment to local dentists.

Captain J. B. Mears, M. C., U. S. N.,

Has just been transferred from the U. S. Naval Training Station, at San Diego, Calif., to U. S. Naval Hospital, at Guam, M. I.

Important Meeting.

Dr. R. D. Bates, councilor for the First Congressional District, announces that there will be a meeting on Public Relations for that District in West Point, on Wednesday, July 15th, at 11 A. M. Local secretaries will advise members as to the hall of meeting.

This is a most important meeting and should be largely attended. It will be addressed by Drs. G. F. Simpson and W. O. Bailey of the Public Relations Committee of the Medical Society of Virginia.

Hospital Care for Negro Crippled Children.

A new Duke memorial building for Negro crippled children was recently dedicated at the North Carolina Orthopedic Hospital, Gastonia. The Hampton, Va., *Southern Workman* states that its erection was made possible by a bequest for the purpose in the will of Benjamin N. Duke.

Graduate Fortnight of the New York Academy of Medicine Open to the Profession.

The disorders of the circulatory system which have in the last decade placed "heart disease" in the forefront of the principal causes of death will constitute the theme of the Fourth Annual Graduate Fortnight of The New York Academy of Medicine.

This graduate course of instruction will consist in a series of lectures and clinical demonstrations, concentrated in a period of two weeks from the 19th to the 30th of October, 1931.

Lectures will be delivered evenings in the auditorium of The New York Academy of Medicine, 2 East 103rd Street, New York City. Clinical demonstrations will be held during afternoon in twelve of the leading hospitals of the city. The demonstrations will be in charge of teaching clinicians and will be organized so that those participating will have the full benefit of individual contact with both demonstrator and patient.

An outstanding feature of the 1931 Graduate Fortnight will be the anatomical, bacteriological, and pathological exhibition of specimens and research material bearing upon the subjects dealt with in the evening meetings and clinical demonstrations.

This exhibit will be housed in the Academy and will be open for leisurely study. A number of the exhibited items will be demonstrated on schedule and subjected to group discussion.

The profession of the country is invited to attend and to participate in the Graduate Fortnight. *There is no charge for attendance at any of the clinics or meetings, but registration for the clinical demonstrations is required.*

A complete program and registration blank for the clinics and demonstrations may be secured by addressing the New York Academy of Medicine, 2 East 103rd Street, New York City.

Gorgas Institute Essay Contest.

The judges of the Third Annual Gorgas Memorial Essay Contest have announced the winners of State awards in the contest, open to juniors and seniors in public, private and parochial high schools of the country. This was participated in by students in forty-three states. High school winners were chosen by faculty committees, and a Gorgas medal was recently presented to each high school winner. From these school winners, the state judges selected the state winners, and those eligible have been awarded a $20 cash prize. The state prize-winning essays were thus made eligible for the national prize of $500, which Admiral Cary T. Grayson, President of the Gorgas Memorial Institute, was to present to the winner in Washington, D. C. on June 26th.

The Virginia prize was awarded to Rose Elizabeth Hulcher, of Cathedral School, Richmond.

The contest, dealing with a health topic, is conducted each year under the direction of the Gorgas Memorial Institute of Washington, D. C., and is made possible through the generosity and interest of Mr. Charles R. Walgreen, of

Chicago, Ill. The subject of this year's contest was "Keeping Fit: The Gorgas Program of Personal Health."

The Blind in India.

Conditions among the blind in India and the great lack of medical facilities for the cure of eye diseases in that country are described by C. G. Henderson, President of the All India Blind Relief Association of Bombay, India, in the summer issue of *The Sight-Saving Review* published by the American National Society for the Prevention of Blindness.

The number of blind in India, according to Mr. Henderson, is approximately 1,750,000, and the number who suffer from seriously impaired vision is more than 4,000,000. He estimates that in economic loss blindness and partial blindness costs India at least $65,000,000 a year.

The number of oculists in India is notoriously small. There are four major ophthalmic hospitals in the country; some few other hospitals have ophthalmic branches, and there are a certain number of dispensaries at which eye work is done; and some of the medical missionaries are oculists. There are also private practitioners but, on the whole, the number of eye doctors is greatly inadequate. Much of the blindness that prevails is preventable, but unfortunately is not prevented; a great deal of the existing blindness is actually remediable, but is not remedied.

Dr. William C. Stephenson, Jr.,

Of the class of '29, University of Virginia, is opening offices in Medical Arts Building, Roanoke, August 1st, and will be engaged in general practice.

The Association of American Physicians,

At its meeting in May, elected Dr. Thomas B. Futcher, of Baltimore, as president; Dr. G. Canby Robinson, New York, vice-president; and Dr. James H. Means, Boston, secretary. The 1932 meeting will be held at Atlantic City, N. J., May 3rd and 4th.

Dr. Thomas Latane Driscoll,

Richmond, Va., has been commissioned a major in the medical reserve corps of the U. S. Army, the appointment being effective the later part of May.

Child Marriages in New York State.

News comes from Albany that in thirty-three marriages contracted in New York State in 1930 the brides were only fourteen years of age; in 198 marriages they were fifteen years old. Eleven bridegrooms were only sixteen, and eighty-four were seventeen. Almost all these boys and girls were native-born whites. A total of 2,838 brides and 2,515 bridegrooms married during the year were under the age at which marriage may be contracted without the consent of the parents—eighteen years for girls and twenty-one for boys.

First Medical Treatise on Children.

The first work on the medical care of children that has come down to us, according to Dr. George F. Still, of London, dates back to the fifth century, B. C., being a treatise by the Greek physician Hippocrates "On Dentition."

Dr. Griffith Honored.

An unusual honor was paid Dr. R. S. Griffith, of Waynesboro, Va., recently, upon his reaching the seventieth milestone in life. The local newspaper featured the occasion and published a beautiful tribute in the form of a poem from one of his old friends, the Rev. M. L. Fearnow, a former Methodist pastor there. Dr. Griffith has been in practice for forty-seven years, forty years of which have been spent in Basic, now part of Waynesboro, Va. He is loved and respected by scores who know him for his ministrations to rich and poor alike. The Griffith-Newman Post of the American Legion was named for his son, whose life was given in the World War and the doctor is an active legionnaire and booster for his home town.

Double Compensation for Injured Child Workers.

The Governor of Pennsylvania has recently signed a bill providing for double compensation for children injured while illegally employed. By this legislative act the State has given its children better protection against employment under the legal age and in forbidden dangerous occupations.

Loan Fund for Medical and Dental Care.

The cooperation of Oakland County, Mich., with the Children's Fund of Michigan has made a loan fund available to county residents who need assistance in obtaining medical or dental care for their children, reports the *Journal of the American Medical Association.* Application for a loan is made to the school

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principal, who has the claim investigated. If the application is approved the family physician or dentist is authorized to give the needed treatment. All fees are paid by the treasurer of the fund directly to the physician or dentist on completion of the service. The parent signs a non-interest-bearing note for the amount and makes payments on a weekly or monthly basis.

Welfare Work for English Families at War Cemeteries in France.

The health of the families of the English gardeners at the British war cemeteries in France is now being cared for by Dr. Muriel Rippin, who was recently appointed by the Imperial War Graves Commission of Great Britain to do welfare work among them. In these families are 700 children, most of them born in France, and half of them of French or Belgian mothers. Some of the cemeteries are remote from centers of population. The doctor's field of work covers an area 120 miles long by 80 miles wide, and she travels approximately 500 miles every week, bringing to isolated women and children the maternity and child-welfare service they would receive if they were at home in England. She also acts as school medical director at the school for English children at Ypres, that famous battleground of the war.

Dr. Williams' Successor as State Health Commissioner.

Following a conference with the State Board of Health, Governor Pollard has appointed as State Health Commissioner, Dr. Warren F. Draper, an assistant surgeon general of the U. S. Public Health Service, now making his home in Arlington County, Virginia. His acceptance depends upon whether or not he will be given a leave of absence from his Federal duties and will have to await the return to Washington, very shortly, of Secretary of the Treasury, Andrew W. Mellon.

Pending Dr. Draper's acceptance, the Governor has appointed Dr. W. T. Graham, chairman of the State Board of Health, as acting State Health Commissioner.

Dr. Frederick Pilcher, Jr.,

Of the class of '29, University of Virginia, and associated with Dr. Thomas Wheeldon, Richmond, since completing his internship at the Virginia Mason Hospital, Seattle, Wash., is now at the University of Virginia Hospital for a year's service as assistant resident on the Urological Service.

Juvenile Courts for Hong Kong.

News comes from London that the establishment in Hong Kong of juvenile courts and training schools for juvenile offenders under sixteen years of age has been proposed by the Hong Kong Legislative Council. Action on the proposal, however, must await instructions from the British Colonial Office. In 1929, the last year for which the facts were known, 985 Chinese boys and 137 Chinese girls under the age of sixteen years were brought before the magistrates. Of these, 131 boys and 5 girls were sent to prison, and 433 boys were ordered to be whipped. The British Colonial Office has announced that the Government will assist the industrial school for boys now being established in the city by the Salesian Fathers.

Dr. J. B. McKee

Announces his removal from Plasterco, Va., to Glade Spring, Va.

Dr. Walter E. Vest,

Of Huntington, W. Va., was elected president of the William and Mary Club of West Virginia at an organization dinner of the alumni of the college held in Charleston on May 13th. Dr. Vest is a native Virginian and is an alumnus of the Medical College of Virginia, class of '09.

Kindergartens in Hospitals.

Kindergarten work introduced into the children's wards of many of the newer hospitals has helped to keep the little patients busy and contented by giving them something interesting to do. It helps the nurses in their own work, says a writer in *Hospital Social Service*, and also aids in establishing friendly relations with the parents.

Grace Hospital to Have Addition.

Construction has been started on a four story and basement addition to Grace Hospital, Richmond, Va. Plans for the structure are designed to provide additional bedrooms, ward rooms, operating rooms, and laboratories, and will make the hospital a complete and modern institution. The entire upper floor of the addition will be given over to elaborately designed and equipped operating rooms—two major op-

erating rooms, a minor operating room, surgeons' dressing rooms and sterilizing rooms.

The New Squibb Building.

Nearly seventy-five years ago, Dr. E. R. Squibb founded a modest pharmaceutical laboratory which was destined to become the modern institution of E. R. Squibb & Sons. Through each succeeding year the business has grown in size because it has grown in service.

In the course of rapid progress new buildings, new methods, new discoveries have constantly supplanted the old.

One of the recent evidences of growth is the new Squibb Building at 745 Fifth Avenue, New York City. Here are installed the executive offices of E. R. Squibb & Sons, in an impressive setting that is in keeping with the modern architectural development of New York City and in harmony with the steady progress of the House of Squibb in the industrial world.

Massachusetts School Tuberculosis Program.

During the past six years 3,000 school children in Massachusetts were found by X-ray examination to be suffering from tuberculosis in some degree, and 6,500 more were in need of supervision as suspected cases. These children were among the 150,000 referred for examination to the clinics conducted by the Massachusetts Department of Health in connection with its ten-year program inaugurated six years ago for the discovery and prevention of tuberculosis in the schools. These findings indicate the value of the work.

The Medical Society of the District of Columbia,

At its annual meeting in May, elected the following officers for the ensuing year: President, Dr. Arthur C. Christie; vice-presidents, Drs. James A. Gannon and Mary O'Malley; secretary, Dr. Coursen B. Conklin (re-elected).

Dr. J. G. Storie,

Grundy, Va., is spending the summer at Rainbow Springs, N. C.

Dr. A. S. Lilly,

Who is taking a two years' course in internal medicine at the Graduate School of Medicine of the University of Pennsylvania, in Philadelphia, visited his home in Richmond, Va., recently.

Rumania's Child-Welfare Exposition.

The Children's Bureau is sending a number of pamphlets, charts, and posters to the first Rumanian child-welfare exposition, which will be held at the Park Carol, Bucharest, from April 23 to May 23, 1931. This exposition is being organized by a Society which was started by Queen Marie soon after the World War to carry on child-welfare work and which now has branches in the larger towns and in many villages in Rumania. Little or no work of this character had been done in Rumania before the war. The Rumanian Legation in Washington, states that a group of young women will later be sent from Rumania to study the child-welfare methods used in the United States.

Progressive Turkey.

Parents and the proprietors of motion-picture houses are subject to fine in Turkey if they violate the law forbidding children under six years of age to attend motion-picture theaters and children from six to twelve years of age to attend after 8 P. M. The regulation was adopted, says the *Journal of the American Medical Association*, because children were often kept for hours in the vitiated air of overcrowded theaters.

Honolulu Fights Diphtheria.

Honolulu's high death rate from diphtheria, which had been steadily increasing since 1922, was cut in half following an immunization campaign carried on by the city board of health in the late fall of 1929, according to a report of the Territorial board of health. During this 1929 campaign and a second carried on in the fall of 1930. 24,444 school and preschool children received treatments, over half of them in the younger group.

Location Wanted—

Physician with broad experience in Hospital, Group and General Practice, desires location where hard work insures excellent prospects. Hospital connections desirable. Graduate Johns Hopkins, 1921. Reply No. 298, care this JOURNAL. (*Adv.*)

For Sale—

McCaskey System Cabinet: large model, slightly used; in excellent condition; cost $285.00 but first offer of $175.00 gets it. Address No. 299, care this journal. (*Adv.*)

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Obituary Record

Dr. Ennion Gifford Williams,

One of the most widely known and best loved physicians of this State, died at his home in Richmond, Va., June 6th, after an illness extending over several months. He was born in Richmond, January 31, 1874. His medical education was received at the University of Virginia, from which he graduated in 1897. Several years later, he became a member of the Medical Society of Virginia and had been ever active in its interests, having served on committees, as a delegate to the American Medical Association, and as its president. Dr. Williams was appinted Virginia's first State Health Commissioner and served in this capacity for more than twenty-two years, which made him, in point of continuous service, the oldest health official in the United States. His work in behalf of public health in Virginia has attracted widespread attention and high commendation.

Dr. Williams is survived by his wife, formerly Miss Anna Heath Lassiter, daughter of the late Dr. D. W. Lassiter, of Petersburg, Va., and eight children, one of them being Dr. Ennion Skelton Williams who graduated from Medical College of Virginia a year ago.

Dr. Madison Redd Drewry,

Of Cascade, Va., and for many years a prominent Pittsylvania County physician, died suddenly June 2nd, from a brain hemorrhage. He was sixty-five years of age and graduated in medicine from the University of Maryland in 1887. Dr. Drewry had been a member of the Medical Society of Virginia for forty-four years. His wife survives him.

Dr. John Wesley Carroll,

Well-known physician and surgeon of Lynchburg, Va., died in a Richmond hospital on June 3rd, death being due to sinus trouble. He was fifty-one years of age and graduated in medicine from the University of Virginia, Department of Medicine, in 1889. Dr. Carroll was a director of the Lynchburg National Bank and a former member of the board of aldermen of that city. He had been a member of the Medical Society of Virginia for twenty-seven years. His wife and a daughter survive him.

Dr. William M. Thompson

Died at his home in Culpeper, Va., June 12th, from heart trouble. He was sixty-three years of age and a graduate of the former University College of Medicine, Richmond, Va., in 1898. Dr. Thompson had been a practicing physician in Culpeper County for more than twenty-five years. He had been a member of the Medical Society of Virginia for twenty-nine years. His wife and six children survive him.

Dr. Albert Lee Barrow,

Abingdon, Va., died March 19th, after having been in ill health for sometime. He was fifty-two years of age and graduated from the University of Maryland, School of Medicine, Baltimore, in 1903. Dr. Barrow had been a member of the Medical Society of Virginia for some years.

Dr. Cooper Dave Kunkel,

Pulaski, Va., died June 11th, at the age of eighty-three years. He graduated from the Bellevue Hospital Medical College, New York, in 1873. Dr. Kunkel had been a member of the Medical Society of Virginia for the past twenty-nine years.

Dr. Thomas Washington Evans,

Concord Depot, Va., died May 28th, after a long illness of heart trouble. He was seventy-six years of age and a graduate of the New York University Medical College in 1882. His wife and ten children survive him.

Dr. William Wilkinson Murray,

Suffolk, Va., died April 29th, aged eighty-six years. He graduated from the National University of Ireland Faculty of Medicine, Dublin, Ireland, in 1869. Dr. Murray was a Civil War veteran.

Dr. John Stewart Jamieson,

Alexandria, Va., died May 18th. He was sixty-three years of age and a graduate of the Kentucky School of Medicine, Louisville, in 1891.